GHOST TOWNS

of the Upper Mojave Desert

Volume I: San Bernardino County

(Preliminary draft: text only)

by Alan Hensher and Larry M. Vredenburgh

Contents

FORWARD

I first became acquainted with Alan Hensher in early 1980 shortly after he authored "Ghost Towns of the Central Mojave – A Concise Guide," [1979]. At this time, I was putting the finishing touches on my portions of "Desert Fever" [1981]. Unbeknownst to me, my work covered some of the same ground as his. After contacting Alan for a copy of his pamphlet, we began to collaborate on Mojave Desert mining history projects.

Alan generously listed me as coauthor of this 138 page volume, but this is really his work. He made a concerted effort to get it published, but to no avail. Ultimately he simply sold Xerox copies for $15 each – which just covered the cost of reproduction and postage. This volume was simply a draft. It lacked maps and photos. I don't know how many copies he made, but I know the University of California purchased a few.

A few years later, in 1991, California Classics Books [Los Angeles], published a greatly condensed version (63 pages). This book titled "Ghost Towns of the Mojave Desert" was full of maps and photos. I had rounded up many of the photos and again he generously gave me credit.

Alan's most recent publication that covers a portion of this region is titled "Abandoned Settlements of the Eastern Mojave." It was published in 2007 by Alan Patera (Western Places: Lake Oswego, OR).

So much has been written on the subject of Mojave Desert mining history since 1986 by so many people (including both of us), that in some cases conclusions drawn in this volume are either incomplete or even wrong. The invention of the internet has now made many newspapers and periodicals available on line, opening new avenues of research. In light of these advances a complete revision is probably in order.

Never-the-less, I have always admired Alan's 1986, "Ghost Towns of the Upper Mojave Desert." It is full of human interest stories. It does not read like a State Mining Bureau report, even though it is full of facts and figures as well. Sometime around 2008 I scanned this volume, and after running optical character recognition, I began to re-format it, with the goal (with Alan's permission) of posting it on the internet. I hope you will enjoy this mining history of the Mojave Desert as much as I do.

Larry M. Vredenburgh
February 2013

INTRODUCTION

THIS WORK IS THE FIRST VOLUME of a greatly enlarged edition of a booklet published in 1979: Ghost *Towns of the Central Mojave*, by Alan Hensher. Here are the stories of about 35 vanished towns, large camps, and colonies in San Bernardino County's desert region. (A second volume will cover the deserts of Kern and Los Angeles counties.) All the settlements depended on mines, farms, railroads, or trade for their sustenance. With some reluctance, we have left out settlements that were meant to be temporary, such as military posts and most construction camps.

Although boom towns only rarely grew into cities, they were still more than ephemeral, limited-purpose settlements or way stations. We define a town here as a fairly permanent settlement that provided goods and services to a trade area. Services could include culture and education, entertainment and recreation.

Our research has yielded a few surprises. First, the number of vanished towns and camps is astonishing--several hundred in Southern California alone. Then, too, the larger settlements turned out to be family communities, noted more for romance than drunken brawls. Best of all, the stories of these communities and their people are available to everyone, in published diaries, government documents, and old newspapers and magazines.

Alas, the histories of several settlements have eluded us. We have uncovered only fragments of information, for example, on Bush, a chemical-processing operation north of Dale; Gray Mountain, a homesteading site near Adelanto; and on a string of railroad stops: Crucero, Nipton, Desert, Danby, Siam, Klinefelter, and Fenner. Most of these stations briefly supported post offices and stores.

Such obscurity is understandable: the communities of the California deserts rarely became as well developed as those of Nevada or the Gold Rush country. Few of them ever supported banks, churches, newspapers. It was not until the late 1890's and early 1900's that Needles, for example, became the first town in the Mojave Desert to get a bank, high school, smelter, and city government. ·

Though underdeveloped, the deserts were not necessarily a lawless frontier. Voting precincts and court townships were established in the desert regions as early as the Civil War, near Mono Lake, in the Owens Valley, and in the Coso and Slate ranges. Each court district, or “township,” was authorized to maintain two justices of the peace and two constables.

Fortunately, counties provided a variety of basic services even to the remotest areas. Acting through part-time officials (often a justice of the peace or a constable), counties would supervise elections, assess property and collect taxes, build and maintain roads, build branch jails and take prisoners to the seats of government, prosecute and defend suspects, investigate suspicious deaths, inspect trees for disease, watch for fires, take censuses of children and create and supervise school districts, take care of mining records (by the late 1890's), and establish branch libraries and lighting districts (by World War I.)

Schools were the most common evidence of local government. Education began to blossom during the late 1860's, becoming almost a secular religion. True, attendance varied widely from

district to district, and schoolhouses ranged from adobe huts to stately edifices; but most important desert communities had schools.

The spread of free library service was even more rapid. Spurred by the state, most counties established branch libraries in even the loneliest sites: in railroad depots, one-room schoolhouses, country stores. San Bernardino and Kern counties opened dozens of branches during World War I.

II.

THE SETTLEMENT of the deserts and mountains of Southern California-indeed, of Arizona and other territories--resulted in part from the waning of the Gold Rush. Declining yields from placers and a depression in 1857 led to discoveries all along the southern Sierra Nevada, at Millerton, White River, Keyesville. (Well established by the late 1850's, Keyesville and White River were probably the last towns to spring up during the Gold Rush.) These strikes in turn led to a series of overlapping rushes into the interior during the early 1860's: along the Kern River, near Mono Lake, in the Coso and Slate ranges, along the Colorado River and in the Providence Mountains, in the San Bernardino Mountains, along the San Gabriel River, and up and down the Owens Valley. Many of the pioneers, such as Dennis and John Searles, the McFarlane brothers, and Samuel A. Bishop, roamed from one excitement to another.

The immediate impetus for the discoveries in the Mojave was the series of gold and copper rushes to the Colorado River in the early 1860's. On their way to Arizona, prospectors found rich silver ore in the Providence Mountains and organized the Rock Springs and Macedonia districts. As protection against Indians, the army maintained a few makeshift posts in the central and eastern Mojave for several years; the post at Rock Spring even had a post office (probably the first in the desert) for a few months in 1866.

III.

BOOM TOWNS did not rise and fall on their own. The settlements were affected as much by outside forces as by the development of their rich mineral deposits or their fertile soil. Politics, business cycles, technology, the weather--all could make or break a town or camp.

Consider an early combination of politics and business. By 1878 or 1879, a six-year depression was finally ending. The recovery has been attributed to a drought in Europe that increased the demand for American crops, the passage of a Republican-backed law (the Specie Resumption Act) that increased the amount of gold in circulation, and, most of all, by a revival in railroad construction. Increased railroad building, probably the greatest cause of the recovery, in turn stimulated several strategic industries in the East: steel and coke production, coal and iron mining, and banking.

The recovery accompanied the rise of mining camps throughout the deserts of the state: Bodie, Lundy, Mammoth City, Benton, Lookout (Modock), all just east of the Sierra, and Providence and Calico; in the Mojave. Many of these districts were penetrated by railroads. Lines were built from Los Angeles to Yuma and Texas, from Texas to Needles and Mojave, from San Diego Bay to the San Bernardino and Daggett areas, from the Carson City area to Owens Lake, and to the forests around Bodie and the farmlands along the central coast. By crossing some of the most forbidding territory in the United States, these lines opened up huge regions to mining and farming and cut the cost of shipping and production. A railroad could easily extend the life of a dying camp.

It seems unlikely, however, that the depressed price of silver caused the downfall of the earliest silver-mining camps. First, the price declined only gradually. The slow decline gave large mining operators time to adjust, usually by cutting wages, often by introducing more-efficient methods of milling. That some camps rose up while others faded suggests that the depletion of the richest, most accessible are caused the abandonment of some mines.

Happily for many, politics came to the rescue of silver mining. In a compromise between hard-money and free-silver interests, Congress passed the Bland Allison Act in 1878. The measure gave an important boost to the silver industry. As prices were rising, or at least remained stable, from the late 1870's to the mid-1880's, major deposits were found at what would become Waterman, Mescal, Calico, and Lookout (Modock).

Though barely understood even then, the depression of the 1870's brought about profound changes in political thought. The working class, backed by middleclass Democrats, struck back at their supposed enemies--the Chinese and capitalists and in 1879 pushed through a second constitution for California. Even though it contained many racist provisions, the new constitution at least recognized the need of government to regulate an increasingly complex economy. To foster a stable banking industry, for example, the state created a commission to regulate banks, not to mention a commission to regulate railroads, bureaus to report on the progress of mining and the working class, and a simplified judicial system (superior courts).

Congress, too, had similar ideas. It created bureaus to survey mineral resources, regulate railroad operations, and report on the condition of labor and the economy.

The fusion of politics and technology produced some impressive results. Despite the presence of good soil and abundant water, the growth of Southern California remained modest until the Santa Fé Railway system built a transcontinental line to Los Angeles in the mid-1880s. Then, after years of agitation, the California legislature passed a law (the Wright Irrigation District Act) that allowed clearly defined farming areas to organize irrigation districts and sell bonds. The number of districts--and farming colonies--mushroomed in only two or three years.

In an attempt to head off the free-silver forces, hard-money Republicans pushed through the Sherman Silver Purchase Act in 1890. Though it was a weak measure, the price of silver again shot up briefly. Calico and other silver districts gained a few more years of life, if not prosperity.

All this tinkering still had not adequately strengthened the economies of the United States or Europe. Speculation in agriculture and railroads (early 1893) led to a six-year depression that closed banks from New York to Riverside, depressed the stock market, and curtailed railroad construction and large-scale mining. Fearing the spread of hard times, Congress hastily repealed the Sherman act. Except at Picacho, major mining in Southern California would remain in the doldrums for two or three years.

Accompanying the recovery, which began about 1896, was the start of important mining projects near the rising camps of Ballarat, Randsburg, Garlock, Hedges, Picacho, pale, Amalie, and Stedman.

The recovery was also aided by the introduction of a wide variety of technology, from Linotypes to oil-burning locomotives. Telephones had already found favor at such widespread mining camps as French Corral (Nevada County), Bennettville (Mono), and Calico (San Bernardino). By the late 1880's, electricity was being used to light the Waterloo mill at Daggett,

but electric power was not widely adopted in the industry until Bodie's chief mill converted to hydroelectric operations a few years later. Meanwhile, the use of small internal-combustion engines became a necessity in the mills of such remote districts as Dale and Garlock.

But two other developments transformed mining. First came the cyanide process. Brought to the United States about 1895, cyanidation, as the process is called, recovers the tiniest particles of gold and silver by leaching, or dissolving, the metal out of the crushed ore. The method proved to be so thorough, especially in working tailings and low-grade ore, that cyanidation became the most important step in milling. (The cyanide process still could not extract gold from some sulfide-rich ores, which had to be shipped to a smelter and roasted.)

What the cyanide process did for milling, the automobile did for prospecting and building up settlements. Though at first unreliable, autos soon proved to be more economical and faster than teams. Their use spread to the booms in Death Valley and Nevada by 1905; within five years, autos would become an essential feature of desert life.

The depressions of the 19th century ought to have alerted Big Business to its follies. But Big Business learned nothing. Speculation in the railroad and banking industries led to a short but painful depression in 1907-1908. The chief mines at Goldfield, Nevada, and Atolia, California, among other districts, had to suspend operations; banks from Goldfield to Los Angeles failed; the extension of railroads into Arizona, Eureka, California, and the Owens Valley was delayed. Disgusted, private and government banking officials joined to further tighten up regulations, close poorly managed institutions, and create stronger regulatory associations, notably the Federal Reserve System.

In fact, it was government policies that led to the homesteading movement. The measure that most affected the West was the Enlarged Homestead Act. Passed in 1909, the law allowed homesteaders to file on double-sized spreads: 320·acres, or half a section. The response was overwhelming: the number of filings reached a peak in 1910 as homesteads were settled near Barnwell (Manvel), Barstow, and Mojave.

Meanwhile, the newly founded settlements were becoming more specialized, more like camps than towns. The homesteading colonies were at best embryonic towns, which usually contained only a combination store and post office, a school, and sometimes a hotel and railroad depot. The mining settlements were not very elaborate, either. Rather than let the settlements develop in a helter-skelter fashion, the large companies chose to found camps that they could easily manage. The company camps were essential large residential areas that serve a mine and mill. The camps tended to contain a at least one bunkhouse, a boardinghouse, a commissary, and sometimes a school or post office. By the 1920's, however, company camps were coming to resemble small towns. They might include a general store; a gas station, a recreation hall or reading room, a county library branch, and perhaps, as at Trona, a high school or a hospital.

IV.

PRODUCING THIS WORK has taught us many lessons.

First, we came to realize that it would not be enough merely to describe mining or farming operations. That approach would only obscure the rich lives of the surrounding communities. Instead, we have tried to emphasize social and cultural history, an approach borrowed from Fred Holladay, a writer and editor for the City of San Bernardino Historical and Pioneer Society. We

made exceptions to this principle if we felt that a settlement had not been adequately treated elsewhere or if information on mining or farming operations was needed to flesh out an otherwise sketchy account.

The stories of the men and women who built up these settlements must await another volume. It is so difficult and time consuming to ferret out complete biographical information that we would not have been able to finish this work:

WE HAVE ALSO BECOME somewhat unorthodox in our use of sources. For example, after a while, it became clear that many government documents were incomplete. Both state and federal writers tended to overlook the very productive operations at Ivanpah, Mescal, and early Calico. Many statistics, too, tended to be either inaccurate or irrelevant: census areas covered not small towns but voting precincts or court districts, to give one example. Happily, a few statistics did prove useful: census figures for well-defined settlements, such as Garlock (Kern County), population estimates found in various business directories, enrollment, attendance, and school-census figures, and the yields of mines and farms.

One group of sources looks especially promising: state, federal, and county archives. Included in them are claim-location notices, court records, agreements, deeds, articles of incorporation, and tax rolls. Their relative inaccessibility and lack of time allowed us only to scratch the surface. For now, we can only wonder about what the archives will yield.

In any case, statistics by themselves tell-little. A wide range of superb secondary sources has placed the material we've researched in perspective.

In many ways, these secondary works, including modern regional histories, studies of business cycles, and volumes on city planning and mining technology, have become nearly as important as the firsthand sources themselves.

All in all, however, newspapers and selected trade journals turned out to be our best sources. The publications seemed to contain everything: statistics on schools, mines, and farms; eyewitness accounts of scenery and towns; reminiscences; and commentaries on trade and business conditions.

Other historians of the West have made that same discovery. In his *Colorado Mining: A Photographic History* (1977), Duane Smith calls newspapers “a mandatory source that must never be slighted, since the gold of mining research is to be found among their pages. Mining camp and town papers provide contemporary insights into every phase of life. . . .” And to J.S. Holliday, the author of *The World Rushed In: The California Gold Rush Experience* (1981), California mining-camp papers “offer an honest, often poignant picture of mining-camp life” and are “a rich source of information.” Holliday predicts: “Future discoveries of eyewitness accounts will not be made by chance in attics or old newspapers but by persevering search through reel after reel of microfilmed newspapers. There are no diggins more certain to provide reward for hard work.” Amen.

CONSIDERING THE RICHNESS of newspapers and magazines, it has been all the more frustrating to find gaps--chasms, really--in the record. Badly broken files of the San Bernardino County and Antelope Valley press exist: for example, only a score of issues of the Calico *Print* survive. Then, too, the national mining magazines tended to overlook small districts; national farming magazines tended to ignore news from agricultural colonies. Because of such gaps, we

have had to qualify many of our statements by using such terms as “apparently” or “probably,” often to the point of monotony. .

GAPS IN THE RECORD might not make much difference if it were not for the type of work this is. Each chapter is like a small book, individually researched in scattered, often restricted sources. Then, too, we have had to make some sense out of the pieces by writing a bibliographical essay, glossary, and introduction.

ALAS. DON'T COUNT ON HELP from some special libraries, museums or historical societies. The collections of some of them can be inaccessible and disorganized. Though well meaning, many of these institutions have spread themselves too thin, unable to help anyone but the most casual visitor. At UCLA, for example, while many early Western newspapers are kept unrestricted in the microform room, similar files are kept nearby in the department of special collections, under tight restrictions. At UC Berkeley, the Bancroft and main libraries microfilm and sell their early Western newspapers separately! In Blythe, the public library refuses to furnish easily replaceable files of microfilmed newspapers through interlibrary loan. (We wound up buying the file we needed from a commercial agency.) UC Berkeley and San Diego State library will furnish interlibrary loan materials to non-academic borrowers only by selling photocopies for 25 cents a page; academic borrowers get the original materials. The California Historical Society widely publicizes its activities and collections but then won't answer letters asking about its holdings of photographs; expect a long-delayed form letter if you receive an answer at all. The Huntington library, the California Historical Society, and most recently the Kern County Museum charge $40 and more for the *privilege of publishing* their photos--besides the usual fee for processing and handling. And still these organizations beg for public support and expect to remain exempt from paying taxes. We needn't wonder, then, why works on Western history consist so often of sloppily researched, lurid accounts of gunfighters and lost treasure.

THERE IS A WAY OUT of this quagmire. We first need to recognize that the people and events that make up this state's history are part of a larger story. To prevent wasted time and effort, historical groups of adjacent counties and cities might do best to coordinate their activities. Together, they could compile regional bibliographies or set up .regional collections of newspapers and books. “The California Division of Mines and Geology, for example, is trying to compile a statewide inventory of photos on mining and conservation.

We can think of an especially useful cooperative project: our state's newspapers, magazines, and historical collections need to be competently and thoroughly microfilmed (or refilmed), selectively indexed, and placed in easily accessible, well-equipped regional centers open at hours convenient to the public. The writings of such noted grassroots historians as the late L. Burr Belden of the San Bernardino Sun should also be indexed. If money and time are limited, at least California's statewide publications should be indexed, starting with San Francisco's *Alta California*, the early Sacramento *Union*, and the *Mining & Scientific Press*.

A few organizations have taken the initiative. The Arizona and Nevada historical societies have indexed their chief pioneer newspapers. During the Depression, the California Division of Mines indexed the state's mining news published in the *Mining & Scientific Press* and the *Engineering & Mining Journal*, though the index is uneven and remains unpublished. The San Diego Public library, with generous community support, has indexed most of the issues of its leading newspapers and put the work on microfiche.

We have already benefited from a wide range of well-managed libraries and archives. One author lives near UCLA, where much of the stack research was carried out; the other lives in the Sacramento area, near the State Archives, State library, California Division of Mines and Geology's photo collection, and the U.S. Bureau of Land Management's collection of survey records. For extraordinary courtesy and aid, we owe thanks to the staffs of the San Bernardino Public library; the Smiley (city) Library, Redlands; the Beale (county) Library, Bakersfield; the Los Angeles County Museum of Natural History library; the California State library and the State Archives, Sacramento; the University of Nevada libraries, Reno; the libraries of the superintendents of public instruction of San Bernardino, Los Angeles, and Kern counties; the San Bernardino County registrar of voters; the administrative office of the San Bernardino County Free Library; the University of Arizona library, Tucson; the survey records section of the U.S. Bureau of Land Management, Sacramento; and the San Bernardino County Museum, Redlands.

And we have only praise for other libraries we have used for related research: those of Riverside, Pomona, Ontario, San Diego, the Claremont colleges, UC Irvine, Modesto, Fresno, San Luis Obispo, Paso Robles, and UC Berkeley.

But ultimately, our success depended not on institutions but people. We have received information and encouragement from Arda Haenszel and Fred Holladay of the City of San Bernardino Historical and Pioneer Society; Germaine Moon and Pat Keeling of the Mojave River Museum Association, Eddie Laytart and Carol Panlaqui of the Maturango Museum, Ridgecrest; Dennis Casebier, Norco; Richard Lingenfelter of UC San Diego; Larry Burgess of the Smiley Library, Redlands; Wes Chambers of the Bureau of Land Management, Riverside; Gary Kurutz of the California State Library, Sacramento; Ron Baker and Jim Hofer of the Ontario City Library; Steven Whitney and Bette Jochimsen of the San Bernardino Public Library; Mrs. Helen Tishkoff of the San Bernardino County Free Library; Mrs. Betty Webb of the office of the San Bernardino County superintendent of public instruction; E.L. McFarlane, Sedona, Arizona; and the late Riley Bembry, Valley Wells. William H. Clinton, the San Bernardino County Registrar of Voters, rescued many hefty volumes of voter registrations. At the San Bernardino County Museum, Bob Reynolds and Mr. Smith allowed us to copy selected photos. Many of our most important photos have come from Steele's Photos, San Bernardino, and O. A. Russell's agency, Yermo. Mary Budrew and Bob O'Connell copied valuable material in the State Library and the State Archives. Darrin; Hooten, Los Angeles, greatly helped us with research. Nina Kleinberg and Chris Alford, Los Angeles, drew the maps. Jack Peskin and Alan Hensher's father, Morris Hensher, literally kept the wheels of our work moving. And Stephanie Vredenburgh, Larry's wife, continues to be a great encouragement.

V.

IT IS OUR HOPE that the stories we've presented here will enable you to set off on your own voyages of imagination. For you will need to use your imagination when you visit the sites of long-gone towns and camps. Most of the sites have been stripped--by vandals and bottle hunters, by pioneers building up still living towns like Baker and Yermo, by property owners trying to reduce their taxes, by government-encouraged scrap dealers during World War I and World War II. The El Rancho Motel in Barstow, for example, is made of old ties salvaged from the roadbed of the Tonopah & Tidewater Railroad.

The change in travel conditions during the past two decades has left us with mixed feelings. Rest stops, interstate highways, and paved roads to Kelso, Cima, and other back country areas have been built. But those same interstate highways have also bypassed--and have nearly killed--such strategically placed highway towns as Amboy and Essex. The new routes have wiped out

most services in the 100-mile stretch between Ludlow and Needles, and what remains at Ludlow is scarcely worth recommending. In late 1984, Amboy still supported a service station, cafe, motel, post office, and even a school. Fortunately, during the past two years, Nipton has grown from a hamlet of three persons to a center containing a store, a garage offering limited repairs, a self-service laundry, a restaurant- bar, and a private campground.

WHAT, THEN, IS LEFT? Plenty. The destruction of our historical sites has also raised the public's historical consciousness. Buildings and records alike have been preserved with greater sensitivity than was thinkable 20 years ago. To savor our heritage, visit museums and such tourist attractions as Calico: look over the terrain; look at the exhibits. Visit the best bookstores you can find and buy their volumes on local history, city planning, journalism and literature, archaeology, geology, and natural history. Visit a college library or large public library and pore over its old maps and files of microfilmed newspapers. Remember, your ancestors read these same maps and newspapers. For you, it will probably be slow, hard going at first, but give the old records a chance: you may eventually find yourself absorbed by them for hours at a time. Dinner your favorite TV shows--these will become unimportant. Then visit the sites of the towns, mines, mills, and railroads, several times if possible. Take in the vastness of the desert: the feel of the wind, the vivid blue of the sky, the soft hues of the hills. At the historical sites, you can still make out the patterns of the streets, foundations, and railroad grades. Fragments of bottles and dishes, rusty nails and rusty cans litter townsites. Please leave them--bottle hunters and treasure hunters have taken their toll. You will find a few surprises. The foundation of the Waterman mill lies just outside Barstow, clearly marked. Even in badly vandalized Providence, stone walls and a few nearly intact buildings line the streets. Along the road is a massive mill foundation, probably built during a revival in the early 1900's. Size up the remains, and it won't be long before you hear the rumble of pounding stamps; smell the black smoke of burning creosote, and see the buildings rise out of the earth like magic.

VI.

IN ONE SENSE, PERHAPS, these settlements were failures. For while they lived, they contained the seeds of their own decline: an ever-vanishing or at best unreliable means of support, such as mineral deposits or rainfall. Surprisingly, few boom towns were able to develop into ranching or trading centers. San Francisco's influential *Mining & Scientific Press* in late 1887 lamented: ". . . The truth is, the business of mining, as heretofore conducted on this coast, has consisted of a series of excitements, each attended with the inevitable skurry and scramble, and resulting usually in serious disappointment and loss. . . .

"Gold Bluff, Gold Lake, Kern River, White Pine, Snake River and Panamint proved all fiascos of the worst kind; . . . the outcome of even the Comstock discovery and its subordinates . . . has fallen far short of early expectation."

The seekers after brighter futures would have scoffed at such intellectualizing. For *they* knew why they had rushed to one excitement after another. The booms helped satisfy a basic impulse to seek adventure, to settle and to build, as Franklin Buck, an argonaut from Maine, confided while putting up a hotel in Mammoth City (Mono County) in 1880: ". . . there is an excitement about this, building up new towns, that I like better than plodding along at some steady business. . . ."

Only the opportunity to buy a farm in the Napa Valley held Buck back, for "we are getting along in life and we had better take a certainty on having a good living than the uncertainty of making money. If I were years younger I would take the mining camps."

--Alan Hensher and Larry Vredenburgh, October, 1985.

BIBLIOGRAPHICAL ESSAY

ALL SETTLEMENTS are composed of a few constant elements: people and land, to name two of the most obvious.

Published census reports tended to use voting precincts and court townships as the basis of population. Beginning in 1880, unpublished census schedules distinguished between town and township (court district) limits. The 1880, 1900, 1910 schedules proved to be especially useful. County business directories and gazetteers usually listed populations, but their figures varied so much that we have used them with caution. Surprisingly, population estimates or canvasses made by visitors or correspondents tended to be low. Occasionally, as in the case of Calico, we have used annual school-census reports, lists of registered voters, and newspaper or directory accounts to estimate populations.

In even the remotest districts, citizens remained intensely interested in politics and government. In 1866, the state began requiring each county to compile lists of registered voters; they were called “great registers.” The published lists, called “indexes,” tended to list eligible voters by court township and voting precinct. The adoption of women's suffrage in 1911 boosted the sizes of the lists considerably. A few counties, such as Inyo, still publish great registers.

Though less accessible, an even better record of life are the annual summaries of school-district activities compiled by each county. The summaries, all unpublished, were entitled “Annual Report on the Condition of Common [Public] Schools.” Until 1911, each district was required by state law to take a census of children through the age of 15 (later through 17).

Newspapers often printed reports of school activities, but several histories of county school departments offer important insights into community life: Gerald A. Smith's A History of the County School Administration of San Bernardino County (San Bernardino, 1954) and Edmund R. Harrington's *A History of the Organization and Administration of Kern County Schools* (Ph.D. dissertation, University of Southern California, 1963). An excerpt of Harrington's work was published by the Kern County Historical Society as *A History of the Kern County Superintendent of Schools* (Bakersfield, 1969).

One of the first institutions sought by a community was a post office. The first distillation of official records was made by Walter N. Frickstad, *A Century of California Post Offices*, 1848 to 1955 (Oakland, 1955). Updating Frickstad's volume is H.A. Salley's *History of California Post Offices,* 1849-1976 (La Mesa, 1977). Salley added important details but, alas, made a few errors of his own.

Most of the major mining and farming settlements were served by a railroad. In two masterly volumes, David Myrick described not only the histories of the lines but also the towns they served: Railroads of Nevada and Eastern *California* (Berkeley, 1962 and 1963). These works blend informative text, exquisite photos, and clear maps to establish themselves as modern classics. A bibliography was to appear in a supplemental volume, which, unhappily, never came out.

Gazetteers and regional business directories are tantalizing sources, but they are exceptionally scarce and can abound with minor errors. These works purported to contain entries on every post office or settlement in a given area, sometimes a county, sometimes the entire Pacific Coast. We consulted gazetteers from 1870 to 1904. For a good list of these directories,

consult Margaret Miller Rocq, *California Local History: A Bibliography and Union List of Library Holdings* (2nd ed., Stanford, 1970).

More accessible, more accurate, and perhaps more useful is a series of water-supply papers issued by the United States Geological Survey early in this "century: Walter C. Mendenhall, *Some Desert Watering Places in Southeastern California and Southwestern Nevada* (U.S.G.S. Water-Supply Paper 224, 1909); John S. Brown, *Routes to Desert Watering Places in the Salton Sea Region* (WSP 490-A, 1921), which also covers the Twentynine Palms, Dale, and Blythe areas; David G. Thompson, *Routes to Desert Watering Places in the Mohave Desert Region, California* (WSP 490-B, 1921). These two works were updated and enlarged as David Thompson's Mohave Desert Region, California: *A Geographic, Geologic, and Hydrologic Reconnaissance* (WSP 578, 1929), a classic on the desert economy.

Two comprehensive, lucid directories cover gold-mining areas well: William B. Clark's *Gold Districts of California* (California Division of Mines and Geology, Bulletin 193, 1969) and Erwin Gudde's *California Gold Camps* (Berkeley, 1975), which concisely profiles thousands of camps, towns, wayside stations, and trading centers. Useful for individual districts, notably Randsburg and Soledad Mountain (Mojave), is Bennie W. Troxel and Paul K. Morton, *Mines and Mineral Resources of Kern County, California* (California Division of Mines and Geology, County Report 1. San "Francisco). All three contain extensive bibliographies.

The only comprehensive history of mining in the Mojave Desert is Larry Vredenburgh, Gary Shumway, and Russell Hartill, *Desert Fever: An Overview of Mining in the California Desert* (Canoga Park, 1981).

The various methods of mining and milling can be confusing to laymen. Despite a somewhat haughty tone, Otis E. Young, Jr., *Western Mining* (Norman, Okla., 1970), which traces developments up to 1893, thoroughly describes the development of the stamp mill, chlorination, cyanidation, and other processes. Working conditions are well described in both Young's book and in Richard Lingenfelter's *The Hardrock Miners: A History of the Mining Labor Movement in the American west, 1863-1893* (Berkeley, 1974).

The Western Federation of Miners influenced mining far more than other pioneer trade unions. The federation's history is sympathetically but fairly treated by John Ervin Brinley, Jr., "The Western Federation of Miners" (Ph.D. dissertation, University of Utah; 1972). Its extensive lists of unions are keyed to maps of mining districts. The rise and fall of many important camps can be traced in the fluctuating memberships of the locals, as recorded in the annual reports of the federation. Most of the desert's unions are listed in the Western Federation of Miners, *Official Proceedings of the Seventeenth Annual Convention for 1909* (Denver). The California Bureau of Labor Statistics compiled wage rates in its *Report*, 12 (1905-1906), 14 (1909-1910), 15 (1911-1912), and 17 (1915-1916).

Information on farming settlements is relatively sparse. For irrigation districts organized under the Wright Act, a progress report appeared in the *Rural Californian* (Los Angeles), 1891, especially pp, 509 and 525. Several government writers interpreted the importance of the districts: the water-supply papers of Harry Johnson (No. 278) and David Thompson (No. 578), both already cited, and by Frank Adams *in Irrigation Districts in California, 1887-1915* (California Department of Engineering, Bulletin 2, 1916).

Military outposts are a form of settlement over overlooked. Robert W. Frazer's *Forts of the West* (Norman, Okla., 1965) presents thumbnail sketches of each military outpost in the West up to 1898. Soon after the Civil War, a young brigadier general inspected the forts of the West, including those of the Mojave: James F. Rusling, *The Great West and Pacific Coast* (New York, 1877). His descriptions are brief and pungent. A modern survey, with other material added, is Dennis C. Casebier, *Reopening the Mojave Road: A Personal Narrative* (Norco, 1983).

Happily, a few good regional works illuminate the larger scene. The development of the southern Sierra and western Mojave are ably recounted by William Harland Boyd in *A California Middle Border: The Kern River Country, 1772-1880* (Richardson, Texas, 1972). Its maps are especially useful. Patricia Jernigan Keeling's *Once Upon a Desert* (Barstow, 1976) is a valuable encyclopedic history of the central Mojave. Richard Lingenfelter's *Steamboats on the Colorado River, 1852-1916* (Tucson, 1978) is as much a history of mining on the desert as on transportation on the river. Frank Love's *Mining Camps and Ghost Towns: A History of Mining in Arizona and California Along the Lower Colorado* (Los Angeles, 1974) is thoroughly researched, yet its chapters tend to lose coherence, the photos are muddy, and a much-needed map is lacking. Legendary is the series of articles by L. Burr Belden. Belden, a historian and reporter for the San Bernardino *Sun*, wrote weekly accounts on the history of the various Californias from 1951 through 1967. Though the quality of his research varied, the range of his subjects is still impressive. Belden's histories of various settlements, both living and dead, is essential for a modern researcher.

No comprehensive account of the early national and regional business cycles seems to have been written. Ira Cross' four-volume study, *Financing an Empire: History of Banking in California* (Chicago, 1927) is turgidly written yet manages to combine annals of banking with analyses of depressions and recoveries. A much-overlooked work is John P. Young, *San Francisco: A History of the Pacific Coast Metropolis* (San Francisco, 1912). Young, a newspaper editor, blended narrative accounts with thoughtful interpretations of cultural life, the press, and the economy. The effects of the depressions of the 1870's on Southern California were briefly recalled by boom-town publisher James J. Ayers in Gold and Sunshine (Boston, 1922). His recollections agree with reports in the San Bernardino and Colton newspapers.

State and federal mining reports are a tempting source of mining history. But the early volumes often contain erroneous, outdated information. Inexplicably, the compilers often overlooked California's deserts.

Periodicals became the chief source for this work. The *Mining & Scientific Press*, published weekly in San Francisco from 1860 to 1922, stood above all trade journals--mining, farming, railroading. This journal carried the latest stock and metal prices, extensive news summaries, and a wide variety of features and editorials. Alas, after about 1900, the magazine tended to overlook minor districts. And occasional articles were gleaned from the *Mining & Scientific Press's* worthy rivals: the *Engineering & Mining Journal* (New York) and the *Mining World* (Chicago).

Denver, Salt Lake City, Los Angeles and other mining centers supported a wide range of mining publications offering one-of-a-kind coverage. Though not as well edited or organized as the national mining journals, the *Los Angeles (American) Mining Review* and *Salt Lake Mining Review* had a talent for seeking out news and features from some of the most obscure districts in the Southwest. Many of their photos are unusually clear and crisp.

Newspapers are essential to understanding a town's social and economic life. The *Alta California*, a seven-day blanket sheet, reported on booms as far away as British Columbia and

Idaho; its correspondents were on the scene during the rushes to the Owens Valley, the Colorado River, and the central Mojave. Closer to the activity were the Los Angeles *Star* and *News*, Visalia *Delta*, and San Bernardino *Guardian*; all were neatly printed tabloids filled with perceptive correspondence.

Glossary

Mining, Farming, and Legal Terms

***Adit*:** strictly speaking, a horizontal passage into the earth with only one opening; a *tunnel* (strictly speaking) is a passage with two openings, that is, cut through a hill. On geological maps, adits and tunnels are marked with a forked symbol.

***Amalgamation*:** process by which mercury is added to ore to separate out gold or silver.

Arrastre (or *arrastra*): simple plant in which heavy stone is dragged around enclosed rock floor to crush ore.

***Ball mill*:** a plant in which iron or steel balls in a revolving drum crush ore; variation of *tube mill* and successor to *stamp mill*.

Bond: to lease a mine, in which the lease-holder leaves a deposit with the owner.

***Calcining*:** process of roasting nonmetallic minerals, such as borates or limestone.

Chilean mill: ore-crushing plant using heavy vertical wheels running in a circular enclosure; variation of an arrastre or grist mill.

Chloriding: act of leasing part of mine, for which owner receives royalty based on value of ore removed; also called *tributing.*

Chlorination: method of extracting silver (sometimes gold) by processing ore with heated chlorine-based chemicals (such as salt); an auxiliary process.

Croppings: early term for the surface exposure of a vein; now called *outcrop.*

Crucible: heat-resistant clay vessel used for melting ores and chemicals in assaying.

Custom mill: ore-processing plant designed to serve small-scale miners, often chloriders.

Cyanidation: process of extracting gold or silver from ores treated with sodium or calcium cyanide solution; often used with *leaching.*

Drift: horizontal passage extending from shaft; various elevations of drifts are called *levels.*

Dry farming: cultivation in which moisture is scientifically conserved; also called *dry-land farming*.

Dry washer: machine in which gold dust is blown free of sand and gravel.

Dump: pile of waste rock left from mining; often confused with *tailings*.

Enlarged-Homestead Act: federal law (1909) permitting homesteaders to claim 320 acres; led to last boom in homesteading.

Free gold: applied to ore containing uncombined gold; that is, easy to process.

Giant powder: early term for dynamite.

Grubstake: loan of supplies, food, or money to prospector in exchange for share in discoveries.

Headframe: derrick-like structure that supports pulley and cable above shaft; also called *gallows frame*.

High-grading: theft of rich ore.

Homesteading: officially claiming and settling on public land; homesteading does not necessarily lead to ownership.

Huntington mill: brand of ore-crushing plant using huge rollers, like laundry wringer.

Hydraulic mining: method of extraction in which powerful jet of water washes gold bearing earth (as from embankment) into sluices.

Jaw crusher: device to break apart rocks or large pieces of ore.

Lane mill: popular brand of modernized Chilean mill.

Leaching: processing method by which particles of metal, usually gold, are dissolved out of low-grade ore, often with cyanide solution.

Lead, ledge, lode: fissures containing ore, in contrast to *placer*; loosely speaking, a *vein*.

Location: act of filing claim (not merely finding deposit).

Ore: mixture of rock and valuable mineral or element; *mineral* is a combination of elements (borates, salt) or single element (native copper). *Rock* is also a colloquial term for ore.

Patent: transfer of ownership of public land to individual, such as mine owner or homesteader.

Placer: deposit of sand or gravel containing particles of metal, such as gold or tin, or gemstones. .

Quicksilver: older term for mercury.

Raise and ***winze***: upward and downward passages cut from drift.

Reduction Works: plant to process ore, usually a mill, sometimes a smelter. Refinery: plant to purify metals found in bullion.

Shaft: a downward passage into the earth, usually vertical, sometimes inclined. On geological maps, shafts are marked with a half-enclosed square.

Smelter: processing plant using chemicals and great heat to separate metals out of ore.

Stamp mill: processing plant in which ore is ground to dust with huge, iron-covered pestles (stamps); also called *quartz mill*. Unit holding stamps, usually five, is *battery.*

Stope: excavated part of a mine.

Sulpherets: older term for sulphides (iron, lead, etc.), which make gold more difficult to remove from ore.

Tailings: pile of crushed ore left from milling; often contains considerable metal.

Whim: animal-or steam-powered capstan, used as a hoist.

Wright Act: California law (1887) that permitted formation of irrigation districts; stimulated land boom.

IVANPAH - PIONEER MOJAVE DESERT TOWN

(Reprinted from: Alan Hensher, "Ivanpah – Pioneer Mojave Desert Town", *Heritage Tales* [City of San Bernardino Historical and Pioneer society, Annual 7], 1984, pp. 36-58.)

IF YOU have never heard of the ghost town of Ivanpah, you are not alone. Though it was the first town to be established in the Mojave Desert, Ivanpah was little-known in its own day, at least outside Southern California. More than a century ago, a Colton editor wondered why investors could not "see a gold mine of any kind unless it was located in Nevada, or Arizona, or someplace very far off and very difficult of access. . . ." And a young San Bernardino publisher complained that a mining report issued by the United States Mint was "very incomplete and abounds with errors. . . . No mention is made of our most productive mines in the Ivanpah District . . . ."[1]

Yet Ivanpah served as an outpost of civilization for 30 years. Where else, at least during the 1870's, could a traveler in the Mojave escape the biting winds to get a drink of pure water, or a meal for himself and hay for his horse, play cards, smoke a pipe, talk, mail a postcard home, have a night cap,. And climb into a warm, comfortable bed? Ivanpah offered all this -and more.

The discoverer of riches around Ivanpah has never been fully established. But it required a group of San Francisco investors and adventurers to give the area life. This group, organized as The Piute Company of California and Nevada in early1869, sent out an expedition to investigate promising copper lodes in the Clarke (soon shortened to Clark) Mountain Range, a few miles west of the Nevada line. When' the company found deposits of silver, it brought in supplies, shipped out some ore for assay, and began publicizing the Clark and adjacent Yellow Pine districts.

The setting made the Clark district more than just "a very EI Dorado" for metals. Several strikes had been made more than a mile above sea level; Clark Mountain, the highest peak in the range, rose nearly 8,000 feet. From these heights, cool breezes would moderate temperatures that sometimes reached 110 degrees F. in the shade. Snow, summer rains, and springs would water scattered strands of juniper, pinion (often called nut pine), yucca, and Joshua trees. [2]

Incorporated in June, 1870, the Piute Company was well equipped to develop the district. For one thing, it had plenty of money. Then, too, John Moss, a trustee, was famed as a roving prospector; Titus F. Cronise, the secretary of the firm, had written a popular encyclopedia of the state's resources; and J. W. Crossman, the superintendent at Ivanpah, was an up-and-coming mine manager and writer.

The company planned four townsites. Cave City was to be near the main group of mines on Mineral (or Alaska) Hill, on the north side of the range. Pachocha (variously spelled) was a green spot at a spring on the west side. Good Spring, just over the Nevada line, was in the Yellow Pine district. Ivanpah, a 160 acre site, was laid out in "quite a pretty location" in a wash or draw on the southeast slope, several miles from the mines, because of the proximity of an abundant spring. Roughly translated from an Indian dialect, the name means "clear water." Only Ivanpah and later Good Spring (renamed Goodsprings) became settlements. [3]

The county buzzed with excitement. Despite the isolation and heat, 300 miners had arrived in the district by the summer of 1870, and others were "flocking thither" from White Pine and Washoe districts in Nevada, from other parts of California, and elsewhere. In September, the district began shipping its first are, to San Bernardino, nearly 200 miles away. The leading

merchants would then forward the ore to San Francisco, at first through Anaheim Landing (near the present Huntington Beach), later through San Pedro. In San Bernardino, the weekly Guardian noted that quite "a brisk trade is springing up in our town with these districts . . . ." Though freighting ore was expensive from the start, about $70 a ton, "it will pay, of course, to bring up these rich ores," which were valued at $170 to $2,500 a ton. It was doubted whether "the famous White Pine mines in their palmiest days, have shown richer prospects and returns, for more miners were arriving, their faces bright with expectation, and hopes as high as was wont to be in the golden harvest times of 1849 . . . ." [4]

By 1871, Ivanpah had become an established trade center for a 35x35 mile district spilling over into Nevada. A traveler in August came across 15 buildings, including a hotel, two stores, the office and headquarters of the Piute Company, and small houses, all of them built of adobe, covered with
Good shake roofs, and "on the average larger than would be expected in so young a place . . . ." Three of the buildings measured 40x60 feet, including the hotel, the largest structure in town.

Eight or nine miles northwest of town, through a steep canyon and over a divide, were the mines, which were scattered about Mineral (Alaska) Hill. Emerging as the outstanding properties were the Hite & Chatfield claim (later renamed the Lizzie Bullock) and the Monitor and Beatrice, owned by the McFarlane brothers -Tom, Andrew, John, and William. The mines on the hill produced ore worth $700 to $1,700 a ton, mainly in silver. Six miles southwest of town was the Copper World mine, which would remain idle for three decades. Several groups were essential to the district's early development: about 20 Indian miners; several Mexicans. who worked the ore of others in their arrastras (circular stone mills); and such pioneers of the Kern River rush of the 1860s as mine operator Dennis Searles, merchant W. A. Marsh and the McFarlanes.

The McFarlanes soon supplanted the Piute Company as the leading operators of the district. Though their Beatrice No.2 claim was equipped with only a hand windlass in 1871, John McFarlane's "sanctum sanctorum" - a very large tent - contained his office, sleeping berths, and mineral cabinets, which held more than 200 specimens. One visitor was delighted to eat a "plain well cooked, substantial" lunch served on a table spread between two pine trees and then indulge in "a social smoke." If "you think beans are not good, you just take a trip to Ivanpah, walk eight or ten miles over the hills and you will conclude that you did not know what is good . . . ."[5]

Mine operators had to persevere to succeed. Ivanpah was probably the most remote settlement in the state, lying 70 miles from Fort Mohave, on the Colorado River, about 260 miles from Los Angeles, and more than 630 miles from San Francisco (through San Pedro). Despite the lengthy haul to San Francisco, "handsome profits are allowed." Nor were miners fazed by having to pay the Mexicans $125 a ton to have their ore worked, for they could still earn up to $80 a ton. The Indians supplied the mines on Mineral Mill with water brought four to six miles by pack train from Ivanpah Spring.[6]

Accordingly, only the richest grades of ore – "shipping ore" -would pay to ship to San Francisco. At one small producer, abundant "low-grade" ore, worth $150 to $200 a ton, had to be set aside on the dump, awaiting the construction of a mill or railroad. At the Hite & Chatfield property (Lizzie Bullock), the charges for preparing and shipping ore worth $1,458 a ton totaled $435. Still, Hite & Chatfield earned a $20,000 profit in 1872.[7]

All of this activity in1872 –the steady stream of miners, mail, freight, and ore -made San Bernardino "quite lively." Brunn & Roe, San Bernardino merchants and ore buyers, once

forwarded 28,000 pounds to San Francisco. With the crops harvested, prairie schooners "loaded with the reward of our hardy farmer" and supplies from the town's well-stocked merchants were going out (October) into the Mojave, Arizona, and Utah and returning "laden with ore." The Guardian wondered: ". . . Who will say that we of this cow country are not prospering - even without a railroad, harbor, breakwater, telegraph or those other necessities, that make a town look lively." [8]

At the mines the next spring, one correspondent predicted that "soon the shrill whistle of the locomotive will be heard as it dashes through our deep cañons, to be answered by the magic thump of the stamp and the roar of the blast furnace . . . ." Ivanpah, in fact, was "becoming an important mining settlement, rapidly filling up with miners," from 150 in February to 300 by October. During the six months to December, Brunn & Roe had forwarded 153,000 pounds of ore, which netted $57,000. [9]

As the leading producers in the district, the McFarlanes made Ivanpah a modem camp. They built a small smelting furnace in November, 1873, after which silver bars began "making their appearance." The brothers were soon found to be living in "a very comfortable house" heated by "a good stove and plenty of fire in it." The lower-grade ore on the dump awaited only "the necessary machinery to transform it into bullion." Accordingly, about early 1875, the McFarlanes moved a five-stamp mill from the New York Mountains to, it seems, the vicinity of the town. The Beatrice Mine, by this time, was nearly 300 feet deep. The McFarlanes' properties were incorporated as the Ivanpah Consolidated Mill and Mining Company, often called the "Ivanpah Con." [10]

Though the district had produced a respectable $300,000 by mid·1875, mining was caught in the doldrums. Silver-lead strikes at Panamint City and Darwin, west of Death Valley, were luring men away. In fact, the 500 horses, mules, and burros around Ivanpah far outnumbered the 100 whites and 40 or 50 Indians living there. A few weeks later, in August, several important banks in San Francisco and Los Angeles failed, the victims of over speculation in mining. The San Bernardino *Weekly Times* in early 1876 asked for the payment of small bills owed it because "times are hard and money scarce." [11]

Though the economy remained depressed through 1876, one mine showed especial promise. The mine was the Gunsight, an old lead-silver property being revived near Tecopa and Resting Springs, about 40 miles northwest of Ivanpah. (Despite the district's isolation and desolation, 200 men were working at the Gunsight by early 1877, and another 200 men lived at a newly established camp at nearby Resting Springs.[12] A post office opened at Tecopa in May.)

At the Ivanpah mines, J. A. Bidwell and a partner built a 10·stamp mill one mile east of Ivanpah in 1876. When it started up in June, one correspondent reported: " 'Not an idle man in camp.' Such is the expression heard on all sides nowadays . . . ." The Bidwell mill was running only half time, but "that prince of good fellows," William A. McFarlane, was running the Ivanpah Con. mill steadily, partly on ore from Tecopa.

The town itself was at least holding its own. Two former Bear Valley merchants were doing a thriving business. L. M. Wilson, a mine operator, was keeping the Accidental Hotel, so called because it was "an accident if you get anything to eat, and an accident if he gets any pay for it. I will just say that at Wilson's table will be found all the delicacies of the market, in and out of season . . . ." [13]

But the properties of the Ivanpah Con. soon fell on hard times. About $40,000 in attachments had been filed against the property by late 1876. The San Bernardino Weekly Argus feared that this "new trouble will work severe hardship to many of our citizens. Teamsters, station-keepers, and workmen generally, will feel the blow . . . ." This property, under several outside owners, operated only intermittently through 1877, although the McFarlanes managed the day-to-day operations. One writer even contended that the mines had never been properly developed, having been "gouged too much by incompetent miners."[14]

The various regional and national depressions began to wane in 1877. In San Bernardino, business seemed to be "reviving a little" that summer. The recovery, sparked by a revival in railroad construction, began to spread from the East. By early 1879, business was the most brisk and the people the most confident since the flush times of 1874·1875, when the Panamint trade was at its peak. One editor knew of "no soup houses, no gangs of men begging for the right to labor at $1.00 per day. . . . In view of the sad scenes of last winter the present is a felicitous state of affairs."[15]

These years of recovery marked an exceptionally busy period for Ivanpah. Bidwell in late 1877 ordered a "neat" spring wagon and a carload of supplies and then overhauled his mill. The force at his Lizzie Bullock Mine rose to 20 by August, 1878. This old and reliable district still held "its position as first on the list of meritorious camps of the country, by keeping up its shipments of bullion and producing rich ores." Both mills had been running steadily all season. Two bars of Bidwell bullion "attracted a great deal of attention" a few weeks later at the railroad depot in Colton. Well into1879, Bidwell continued to send out heavy loads of bullion, one cargo worth $8,000. As he left for San Francisco to buy more supplies for his mill, Bidwell again predicted "a large increase of miners and prosperity of this aptly named 'poor man's camp." [16]

Desert prospects began arousing intense interest in neighboring cities, and in late 1877 county supervisors put up guide boards, deepened wells, and installed watering troughs along the San Bernardino-Resting Springs road. James Boyd, the owner of the Copper World Mine, built an experimental smelting furnace in San Bernardino in August, 1878. San Bernardino's merchants, meanwhile, were forwarding goods daily to Resting Springs, Ivanpah, and even Arizona. The road to the Clark district by early 1879 was lined with well-supplied rest stations, such as Soda, where hay and barley could be bought for eight cents a pound. [17]

The districts themselves, however, experienced a peculiar form of economic life. The arrival of payday at a mine could bring "lively times" - drinking, gambling, fighting, and general idleness for days. But whereas the mines in general could remain prosperous, a mill might shutdown for lack of fuel, bringing "dull times" for weeks, even months.

During one-relatively dull period, in April, 1879, a resident reported that "our little camp- the old stand-by - is not dead, and not likely to be . . . . It has been the most prosperous since the McFarlanes were turning out their large amounts of bullion every day and the camp was full of men . . . ." The district's residents - more than 100 on Alaska (Mineral) Hill alone - were carrying on a brisk trade at the town's two saloons and two stores. Ivanpah also supported two blacksmith shops, two shoemakers' shops, two hotels, two hay yards, one butcher shop, and "neat and comfortable" houses, all in all, "much better than I anticipated," one visitor found. The area also supported a justice of the peace, constable, notary, postmaster, and perhaps a deputy sheriff. [18]

Considering this growth, the lack of mail service remained a sore issue. Loud complaints in the county's newspapers and vigorous lobbying in Washington induced the post office department

to halt plans to run a mail route from Mojave station, in eastern Kern County, to the Tecopa - Resting Springs area and Ivanpah. The department finally authorized the establishment of post offices at Tecopa in May, 1877, Ivanpah in June, 1878, and Kasson in July, 1879. (Kasson, an especially obscure office, served a mining revival at Saratoga Springs, at the south end of Death Valley. It closed in November, 1879.)[19]

But the actual delivery of mail had to wait until a roundabout route from Colton to Fort Mojave went in to operation in early November. Horseback riders were scheduled to make three trips a week through San Bernardino, over the Cajon Pass and along the Mojave River, and then to Tecopa and Ivanpah. Contractor Hugh J. White, the operator of a stage line, was given 70 hours to make each one-way trip.

This service turned out to be far from satisfactory. White complained that it was impossible for him to make the run in the allotted time and from the outset had cut Tecopa and Ivanpah off his route. Even on that shortened route, Scipio Craig, publisher of the Colton Semi-Tropic, bitterly pointed out, the mail "takes it as leisurely as if there was no such thing as Special agents or reports of trips . . . ." Craig soon became incensed that White's "persistent refusal" to run to Tecopa had "provoked much wroth and cursing from the hardy miners of that flourishing camp." As Colton's postmaster, he promptly received permission to hand out mail to properly identified residents of Tecopa,

White got the message. He was receiving only $1,000 a month to maintain horseback deliveries that cost him $1,400 a month. Yet beginning in late December, White went over the line, repeatedly restocked it, and ordered half a dozen buckboards to carry express matter. Finally, he promised Tecopa triweekly runs from Ivanpah, which his men were reaching in 48 hours. ". . . . Guess Mr. White intends to do the square thing after all," Craig remarked. These improvements, he later said, would be "a source of joy" to the miners of Tecopa. When White inspected the line "as a matter of form" in September,1880, it was reported that "everything connected with the route has been so thoroughly organized that it is most like well regulated clock work. . . . " [20]

Like clockwork, heavy bars of bullion from the Clark district, worth $2,000 to $4,000 a shipment, continued to pour into Colton and San Bernardino. Craig rejoiced: "The news from this flourishing camp grows better and better. Every week or so we notice huge bars of silver bullion passing through enroute for the metropolis. These bars weigh nearly two hundred pounds apiece and are more nearly pure silver than coin." When one group later sent an exceptionally rich load to Colton, he moaned that it "will go enough dollars to make a printer's eyes water all down his neck. . . ." [21]

But Ivanpah represented more than mining. Its residents also appreciated a rich social life. When Billy Boreham married May Taft at Resting Springs, the "boys" of Ivanpah gave the couple a rousing reception, which was followed by music, small talk, and singing until the wee hours. When Dr. Fred Bishop made plans to marry "a dashing widow of San Bernardino," he was praised as a "fine fellow" who deserved "a fair bird for so fine a cage." (Bishop, alas, was killed a few months later, when apparently his horse stumbled and fell on him.) [22]

Camp life also had an ugly side. When photographer Adam Vale, a clean-living family man from San Bernardino, entered Ivanpah in April, 1880, he came across two drunks lying in the street and another trying to get a pistol to shoot another man. He hastily scrawled in his diary: " 'Drunk' Oh! what a mess. Deliver me from such a place[.]"[23]

Vale had reason to wince. A few days later, in one of Ivanpah's "many whisky rows," another man was hurled "into eternity without a moment's notice. . . . " The trouble had started when D. C. Sargent accused L. M. Wilson, the hotel and boarding house owner, of cheating at cards. The issue festered for several days, Sargent finally taking his supposed loss from Wilson at gunpoint.

Any chance of a peaceful settlement vanished when two of Wilson's friends, Jack Riley and Andy Laswell, went after the money. But liquor got the best of Laswell, who confronted Sargent at 1. F. Burdick's store: "We have some business to settle with you, so come out and settle it." Sargent retorted: "I have no business with you and am not going to settle with you."

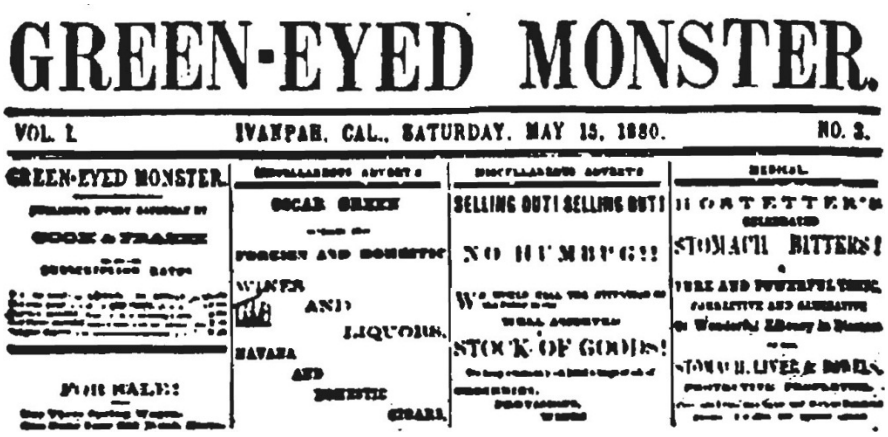
Sargent apparently made a motion as if to pull a revolver. Riley, and perhaps Laswell, began firing. Hit four times, Sargent fell dead.

Though this was the camp's first killing, the machinery of justice went into motion at once. John A. McFarlane, as foreman, held a coroner's inquest, a doctor examined the body, and the prisoners were placed in irons and taken under' heavy guard to San Bernardino, where they appeared at a preliminary court hearing. Both Laswell and Riley were highly respected, and Craig refused to comment on the affair. ". . . . The Court of this county will have charge of the case and we suppress all desire to enlarge upon the matter."

(Confined in the hot, stuffy jail, Laswell became "dangerously ill" in June and was moved to a home, "where everything is being done that is possible but there are very faint hopes of his recovery." But he recovered. A jury later found Riley guilty of manslaughter but acquitted Laswell and Wilson.)[24]

Only days after the killing, the correspondent for the *Semi-Tropic* explained the two-sided nature of Ivanpah: "'Pay day' in the Ivanpah Consolidated has come and gone and our town has [begun] to settle down into that quiet little camp of old. Ivanpah, like nearly all other California mining camps[,] is either all excitement or else very quiet. They are made by excitements, spring up as by enchantment and as suddenly die. Ivanpah, for three or four days after pay day, was as lively as the camps of '49.' Everybody had money and consequently nearly everybody was drunk, or trying to get that way. Fights were the order of the day, and every man that had a grudge against his neighbor wanted to settle it up and consequently. . . . they all got satisfied." [25]

By now - early 1880 - the town's fortunes were fading. During Vale's visit in April, daily life centered on McGintey's store and saloon, Wilson's boardinghouse, McGrath's saloon, I. F. Burdick's store, the post office, and a hay yard. Since only about 65 men and women lived in town, and not many more at the mines, mail service was cut to weekly in May, when a short-lived weekly newspaper was published. 26



GREEN-EYED MONSTER.

VOL. I. IVANPAH, CAL., SATURDAY, MAY 15, 1880. NO. 3.

GREEN-EYED MONSTER.

COOK & FRAZEE

FOR SALE!!

OSCAR GREEN

FOREIGN AND DOMESTIC

WINES AND LIQUORS.

HAVANA AND DOMESTIC CIGARS.

SELLING OUT! SELLING OUT!

NO HUMBUG!!

STOCK OF GOODS!

STOMACH BITTERS!

(Courtesy: Journal of the West)
Cook and Frazee's lively Ivanpah newspaper, the "Green-Eyed Monster."

The weekly was the Green-Eyed Monster, named after a mine. It was founded in May by James B. Cook, 37, and Wilmonte (Will) D. Frazee, 22.

Frazee, the son of a respected family in the San Bernardino Valley, had served his apprenticeship under Craig while Vale and stage operator William Godfrey were serving as county agents for the *Semi·Tropic*. When Frazee "pushed out into the cold, cold world to seek his fortune elsewhere" in early 1879, Craig commended him "to the good graces of the craft wherever he may go. He is a steady boy and a fast typo." Frazee joined the *Argus* but wound up carrying the mail to Ivanpah in early 1880. He soon became known for writing droll, humorous sketches in the manner of Mark Twain and Dan De Quille.

Despite Cook and Frazee's journalistic experience, they had to close their paper after only a few issues, quipping: "After some weeks in this 'boom' camp, our *argus eye* has yet to catch even one live item to serve up in our local column, save the exciting incidents of our own arrival, heralded as it was by the cheering rattle of a brother reptile beside our trail and the attentive yawn of McGintey's yellow pup in the shade of the store." [27]

Not even politics excited Ivanpah's voters much anymore. Only a few years earlier, its residents had supported the populist Workingmen's Party and the adoption of a second state constitution. But in November, 1880, they fell in line behind James Garfield, the regular Republican candidate for president. Garfield received 29 votes to 13 for Winfield Hancock, the Democratic candidate. The election "passed off quietly for a Mining camp, without anyone being seriously injured by being mixed up in little political squabbles . . . It is poor policy to bet on election returns from mining camps, for a great many of the men will talk one way and vote another." [28]

Meanwhile, for nearly a year, other discoveries had been exciting the county: at Oro Grande, near the present Victorville; the Waterman Mine, just north of today's Barstow; at the Mescal (or Cambria) Mine, in the southern end of the Clark district; and in the Providence Mountains, even farther south. Of a bonanza struck by Andy McFarlane and Charley Hassen at Providence, a correspondent reported in June, 1880: "Every body who can get away are off to the mines. The recent discoveries have caused a fever among all the old prospectors and they are away to try their chances once more. . . . " [29]

Though the Ivanpah Con. had produced a reported $500,000 in bullion by the end of 1879, it remained dogged by unexplained troubles. To cut costs and support a company-sponsored store, the owners, a San Francisco firm, had issued scrip “in imitation of money.” The company later suspended work, owing its men several months' back pay. The firm also owed the United States government a 10 percent tax for the issuance of the scrip. The workers sued, followed by the government, which won a judgment of $1,480 and sent E. F. Bean as deputy Internal Revenue collector to attach the mine and mill.

The attachment became anything but routine. “Another Tragedy At Ivanpah!” the San Bernardino *Weekly Index* headlined. The tragedy, another killing, had occurred after Bean arrived on May16 and went to the company office to have the mill shut down. During that day and the next, clerk J. B. Cook and superintendent John McFarlane threatened Bean. McFarlane soon apologized for having brandished a double-barreled shotgun and for “using the most abusive language, and applying the most opprobrious epithets.” Then he shut down the boiler and closed the mill.

The mechanics of the attachment revealed a seething caldron of personalities, old wounds, scores to be settled. When, on the evening of May 17, Cook was told that Fred Hisom was watching over the mill, he got up from his game of cards and rushed out to the mill, revolver drawn, threatening Bean and McFarlane. During the dispute that followed, McFarlane sided with Cook, his right-hand man, grabbing a shotgun and threatening Hisom. Hisom then sprang forward, dodged as he pushed up the muzzle of the shotgun, which went off, and rammed McFarlane against the mill wall. Hisom soon felt a sharp pain in his head, and blood streamed down his neck. Then the two men clinched. Realizing the danger, Hisom pressed his revolver against McFarlane and fired three shots. McFarlane fell dead; Cook begged for his life.

Hisom gave himself up to a deputy sheriff. Cook was also arrested. At a court hearing in San Bernardino, the killing was ruled “a clear case of justifiable homicide,” and Hisom was released. The *Index* praised both Hisom and Bean for showing restraint, noting Hisom's “courage and coolness.” The killings made Ivanpah a subdued camp.

In San Bernardino, it was feared that Mrs. McFarlane might remain “hopelessly insane.” But she recovered somewhat a few weeks later, received a $2,000 check from her husband's fraternal order, and went East to spend the summer with relatives. (She later had her husband's body reburied in San Bernardino.) The McFarlane brothers averted a forced sale of the Ivanpah Con. by paying the claim of the U.S. government but planned to sue for $50,000. [30]

In general, however, the mines were doing well in 1881. From Resting Springs came shipments of $7,000 in bullion, from Ivanpah shipments of $3,000. By the end of the year; Wells, Fargo & Company had shipped more than $150,000 in bullion and $12,000 in gold dust through San Bernardino alone. With fairly cheap railroad transportation available, ore left on the dumps was being shipped out “to good advantage, as it is very easily got out. . . .” [31]

Information is sketchy, but Ivanpah's mines were probably reaching their peak by this time. An exceedingly important series of silver strikes was made on Calico Mountain in early 1881; within a year, hundreds - later thousands -were arriving from cities and mining camps alike. In the Ivanpah precinct, the number of registered voters declined from a peak of 78 in1879 to eight in1886. While the Mescal Mine operated, the owners bought the properties of the Ivanpah Can in early 1887 and announced improvements that would “keep the mill in constant operation and

once more, make Ivanpah a lively camp. . . .” An Ivanpah mine operator also planned to build a mill at his mine. But neither plan came to pass. About all that remained in operation were a store and the post office, perhaps a boarding house, too. A weekly mail continued to arrive in 1890, but it is unlikely that the two mills ran very often, for only 11 residents remained. [32]

When young Frank Williams passed through town in December, 1892, Ivanpah was a convenient place to stop, nothing more. “I arrived in Ivanpah sometime after midnight and as I could see no lights anywhere I just sat around and shivered until daylight came. When I saw a large stone building lighted up, I went over and found it to be Mr. Bidwell's store and boarding house.” Williams got breakfast and directions to Goodsprings, Nevada.

The pioneers were already passing, Johnny Moss in 1880, John McFarlane in 1881. Bidwell would die in 1893, followed by Crossman and Andrew McFarlane.

Also passing was silver's status as a favored metal. A temporary political maneuver, the Sherman Silver Purchase Act, drove up the price in 1890 and 1891. But President Grover Cleveland and other hard-money Republicans, fearing a depression, repealed the measure. Too late another six-year “financial stringency” swept the nation. Old silver camps declined while major gold strikes were being made all over the dessert, at Hedges (Tumco), Picacho, Randsburg, and Mojave. At Ivanpah, the store closed about when silver reached a low of 58 cents announce in 1898.The post office closed in April, 1899.[33]

Now another pioneer discovery was proving its worth. The Copper World Mine had been reactivated in 1898, becoming the largest copper producer in Southern California. A large smelter was built at Valley (Rosalie) Wells; a few miles below the mine, in early 1899; the Ivanpah post office was moved to Valley Wells in April and its name changed to Rosalie.

The mine and smelter employed 85 men and 140 mules. Every four days, teams would haul 20 tons of bullion up the 2,000-foot grade of the New York Mountains to Manvel, 30 miles southeast, and return with coal and supplies. The mine produced 11,000 tons of rich copper ore until litigation forced the mine, smelter, and post office to close in July, 1900.

Spurred by the imminent revival of the Copper World, the California Eastern Railway built a16-mile extension from Manvel down to the brush covered Ivanpah Valley in early 1902. At the end-of-track, a few stores and other buildings occupied by 25 to 30 persons made up another “Ivanpah,” called Ivanpah station, located perhaps a dozen miles southeast of its original namesake. An Ivanpah post office reopened at the station in August, 1903.

The station failed to last. Costly, wasteful operations forced the Copper World to close after a year or two. A railroad from Salt Lake City to Los Angeles (the present Union Pacific) was built within a few miles of the station in 1904-1905; other lines were built to the borax and gold fields of Death Valley and western Nevada. The post office was moved several miles to Leastalk, a newly established station at the junction of the Salt Lake line and California Eastern. The Copper World reopened in 1906, producing 487,000 pounds of copper in 1907 alone, then closed. lvanpah station had been nearly deserted “for some time” when its four or five buildings were burned in April, 1908, supposedly by tramps. The California Eastern ran a train from Manvel until1913, finally tearing up the tracks in 1921.

Then World War I boosted metal prices. The Copper World was reopened in 1916, a large blast furnace was later built, and the workforce was increased from six to 60. The bullion was

hauled by tractor to Cima, a station on the Salt Lake railroad. The Armistice in late 1918 led to declining prices, and the Copper World again shut down. This was the mine's last major revival.[34]

After a few years, Leastalk was renamed South Ivanpah, which was soon shortened to Ivanpah. A siding, home, and cluster box for mail make up the settlement.

Notes

1. Colton *Semi·Tropic*, March 13, 1880; San Bernardino *Weekly Index*, Nov. 26,1881, citing mint's annual report on production of gold and silver in U. S.
2. Larry Vredenburgh, Gary Shumway, and Russell Hartill, *Desert Fever: An Overview of Mining in the California Desert* (Canoga Park, 1981), pp 96-109; *The Piute Company of California and Nevada* (San Francisco, 1870);San Bernardino (Weekly) *Guardian*, May 31, 1873.
3. *Guardian*, June 18, 1870; Roman Malach, *Adventurer John Moss* (Kingman, 1977), p 5; *Piute Company*.
4. *Guardian*, Aug. 20, Sept. 10, and Oct. 1, 1870.
5. Ibid, Sept. 30, 1871.
6. *Piute Company*; *Guardian*, Aug. 5 and Sept. 30, 1871.
7. *Guardian*, Ap. 26, 1873.
8. Ibid, Ap. 13 and Oct. 19, 1872.
9. Ibid, May 31, Feb. 22, Oct. 4, and Dec. 6, 1873.
10. Ibid,Nov.15,1873,and Feb.21,1874;Vredenburgh, *Desert Fever*, p. 113; George M. Wheeler, *Annual Report Upon The Geographical Surveys West Of The One Hundredth Meridian . . .* (Washington, D.C., 1876), pp, 53-54.
11. Remi Nadeau*, City-Makers: The Story of Southern California's First Boom, 1868-1876* (4th ed.; Corona del Mar, 1965), valuable background throughout on trade, railroads, and mining; Wheeler report, pp. 53-54; San Bernardino *Weekly Times*, Feb. 12, 1879.
12. San Bernardino *Weekly Argus*, Feb. 14, 1877; accounts of camp's progress can be found in *Weekly Times*, Aug. 24, 1878, and Feb. 22, 1879, and *Weekly Index*, Nov. 15, 1880.
13. *Weekly Times*, June 17, 1876.
14. *Weekly Argus*, Dec. 3, 1876; *Semi-Tropic*, Aug. 25, 1877.
15. *Semi-Tropic*, Sept. 1, 1877; *Weekly Times*, Feb. 15 and March 1, 1879.
16. *Semi-Trop*ic, Dec. 15, 1877, and Jan. 19, 1878; *Weekly Times*, Aug. 24, 1878; *Semi·Tropic*, Sept. 28, 1878, and Ap. 5, 1879.
17. Road: *Semi·Tropic*, Oct. 13, 1877, Aug.10, 1878; *Weekly Times*, Aug. 10, 1878; trade and travel: *Weekly Times,* Ap. 27, 1878, and Ap. 5, 1879.
18. *Weekly Times*, Ap. 5 and Ap. 19, 1879.
19. Semi-Tropic, Jan. 18 and Oct. 26, 1878, and May 10, 1879; W. N. Frickstad, *A Century of California Post Offices, 1848-1954* (Oakland, 1955), pp. 51 and 146, 142,153.
20. *Semi-Tropic*, May 10, Nov. 8, Nov. 15, Nov. 22, Dec. 6, and Dec. 20, 1879, and Jan. 21 and Sept. 4, 1880.
21. Ibid, March 13 and June 5, 1880.
22. Ibid, March 30, 1880. 30
23. William Vale, "Log of Trip to Ivanpah & Resting Springs" (typewritten copy of diary), California Room, San Bernardino Public Library.
24. *Semi-Tropic,* May 1 and July 3, 1880; *Weekly Times*, July 3, 1880; *Semi-Tropic*, Oct. 2, 1880; *Weekly Index,* Oct. 8 and Oct. 15, 1880.
25. *Semi·Tropic*, May 1, 1880.

26. Vale diary; *Semi-Tropic*, May 1, 1880; Census schedules, San Bernardino County, 1880.
27. Karl Shutka, "'Humbug Bill' Frazee and the 'Green-Eyed Monster,'" Journal of the West, October, 1962; Semi-Tropic, Feb. 15, 1879, and Jan. 21, 1880.
28. Semi-Tropic, Nov. 13, 1880.
29. Vredenburgh, Desert Fever, throughout; *Semi-Tropic*, June 19, 1880
30. Richard Lingenfelter, *The Hardrock Miners*: *A History of The Labor Movement in The American West, 1863-1893* (Berkeley, 1974), pp. 29-30; Los Angeles *Daily Herald*, May 25, 1881, clipping San Bernardino (Daily?) Times; *Weekly Index*, May 27, June 3, June 10, June 24, and July 22, 188l.
31. *Weekly Index*, Ap. 1, Ap. 8 and Nov. 26, 1881, and Jan. 21, 1882.
32. The *Weekly Index* and *Weekly Times* for 1881 and early 1882 chronicle the rise of Calico; *Great Register*, 1879 and 1886; *Mining & Scientific Press* (San Francisco), Ap. 2 and Sept. 17, 1887, and Dec. 13,1890; U.S. Census Report for California, 1890.
33. Frank Williams autobiography (typewritten copy), Frank Williams Collection, Special Collections, University"of Nevada, Las Vegas; profile of Andrew McFarlane by Fred Holladay in "The Silver King," *Odyssey*, March, 1979, and of William McFarlane in J.M. Guinn, *A History of California* . . . (Los Angeles, 1907), II, 1531; Vredenburgh, *Desert Fever*, throughout; Frickstad, p. 142.
34. Vredenburgh, *Desert Fever*, pp. 107-109; Frickstad, p. 142; Lewis Aubury, *The Copper Resources of California*, Cal. State Min. Bur. Bulletin 23 (San Francisco, April, 1902), p. 254; David Myrick, *Railroads of Nevada and Eastern California* (Berkeley, 1963), II, 844·848; Horace Stevens, comp., *The Copper Handbook . . .* (Houghton, Mich., 1903), III,282; D. F. Hewett, *Geology and Mineral Resources of the Ivanpah Quadrangle . . .* , U.S. Geological Survey Prof. Paper 275 (Washington, D.C., 1956), pp. 136-138; Searchlight (Nevada) *Bulletin*, Ap. 10, 1908.

ACKNOWLEDGEMENTS

I am grateful to my father, Morris Hensher, Fred Holladay, Arda Haenszel, and Larry Vredenburgh for their encouragement and help. -"Alan Hensher.

SOURCES

The history of Ivanpah had to be pieced together from a variety of sources, especially badly broken files of newspapers: the San Bernardino *Guardian* (weekly), the *Argus* (weekly and daily), *Valley Index* (weekly and daily), and Colton *Semi-Tropic* (weekly), 1870-1881. Inexplicably, the *Mining & Scientific Press* published only occasional items. .

Though more speculative than informative, a stock-promotion booklet, *The Piute Company of California and Nevada* (San Francisco, 1870), contains beautiful lithographs of the Clark Mountain district.

A variety of visitors made important observations: "Jottings by the Way En Route to Ivanpah, Clark District," San Bernardino *Guardian*, Sept. 30, 1871; Frederick Dellenbaugh's diary, "Record of a Sketching Tour to N. Arizona & S. Utah, 1875-1876" (original held by the Arizona Historical Society); George M. Wheeler's *Annual Report Upon the Geographical Surveys West of the One Hundredth Meridian* (Washington, 1876), pp, 53-54; William Vale's diary, "Log of Trip to Ivanpah & Resting Springs" (typescript copy in California Room, San Bernardino Public Library); Frank

William's autobiography (typescript copy in Department of Special Collections, University of Nevada, Las Vegas).

Three of the McFarlane brothers are separately profiled: *Illustrated History of Southern California* (Chicago, 1890); J. M. Guinn, A History of California . . . (Los Angeles, 1907), II; and Fred Holladay in *Odyssey* (City of San Bernardino Historical Society, bulletin), March, 1979. Moss's early years are touched upon in Roman Malach, *Adventurer Johnny Moss . . .* (Kingman, 1977).

Karl Shutka gathered the scant information on Ivanpah's newspaper and its founders in two articles published in *Journal of the West* (Los Angeles): "'Humbug Bill' Frazee and the 'Green-Eyed Monster,'" October, 1962 (v. 1), pp, 215-218, and "'Humbug Bill' Frazee: His 'Canteen Fish' and Other Tall Tales," July, 1964 (v. 3), pp. 369-374.

D.F. Hewett, a federal geologist, visited the mines during the 1920's, when one pioneer remained: *Geology and Mineral Resources of the Ivanpah Quadrangle, California and Nevada* (United States Geological Survey, Professional Paper 275, 1956). Vredenburgh thoroughly researched the history of the Clark and adjacent districts in *Desert Fever* (cited earlier). The revival of the Copper World aroused considerable interest, as recorded in the Redlands *Citrograph,* 1898-1899; Horace Stevens, comp., *The Copper Handbook . . .* (Houghton, Mich., 1902), III; and in two reports by Lewis Aubury, both entitled *The Copper Resources of California* (California State Mining Bureau, Bulletin 23, 1902, and Bulletin 50, 1908).

The brief life of Ivanpah Station (I) is told in David Myrick's *Railroads of Nevada and Eastern California, II* (cited earlier), and the Needles *Eye* and the Searchlight *Bulletin*, April, 1908.

WATERMAN, CALICO, BISMARCK

Oro Grande and Waterman

CALICO WAS A SILVER DEPOSIT waiting to be discovered. Fair roads led from San Bernardino across the Mojave Desert--toward Nevada, Utah, and Arizona. Ranches and supply stations dotted these roads like the motels and service stations of a later era. Nearly everyone, it seemed, prospected on the side, from sheriffs to surgeons. By the late 1870's, much of the desert was staked out in mining claims.

Two areas in particular lured prospectors into the desert: Oro Grande, on the Mojave River, about 45 miles north of San Bernardino, and the Grapevine district, near the later site of Barstow.

Oro Grande was the result of rediscoveries of silver and gold ore in mid1880. A mining district was organized, a townsite laid out, and a post office named Halleck established, in January, 1881. Oro Grande presented "a very picturesque appearance" to a visitor in April. ". . . One driving into town at dusk will see the miners returning from work, while the camp fires are burning and supper is being prepared . . . ." A general store, two butcher shops, a hotel, a lodging house, several small homes, a company office and assay office, and a 10-stamp, water powered mill looming in the background "combine to give the town the appearance of a busy mining camp."

(Several Milwaukee capitalists, who would figure prominently at Calico, bought the mines and mill in late 1881 and formed the Oro Grande Mining Company. Though mining quickly faded, Oro Grande survived as an important farming, railroad, and milling center. The post office was renamed Oro Grande in 1925.)

MORE IMMEDIATE was the revival of the George G. Lee claims in the Grapevine district. Lee had found what he thought was mercury ore four miles north of what is now Barstow but died in 1879. Robert W. Waterman, a leading farmer in the San Bernardino Valley (and a future governor) and geologist John L. Porter visited the Lee property in mid-1880. In December, they found silver in samples taken from the claims, staked the area out for themselves, and planned a milling camp on a hill overlooking the Mojave River.

Operations began almost at once. "Doc" George Yager, one of the discoverers of the Silver King Mine at Calico, saw sacks of ore worth up to $3,000 a ton in silver awaiting shipment to San Francisco. During the spring and summer, Waterman and Porter bought machinery for a mill and cleared a millsite with 15 Indians. The ore, meanwhile, was hauled out by wagon for eventual milling in San Francisco. The settlement that was built included a general store run by E.J. Miller and a general store, hotel, and 10-stamp mill operated by Waterman and Porter. Waterman post office was established in October, 1881, though the material for the office and the postmaster's commission (for son Waldo) failed to arrive until November, when the mill started up. The mill was soon running day and night, processing 18 tons of ore a day.

Waterman and Porter made "no loud cry about their success," giving scant details about their operations. But the heavy bars of silver passing through the express office in San Bernardino made quite a stir. A large crew was working 'at the mine (January, 1882) on ore that assayed up to $1,100 a ton. In less than a year, the Waterman had become the leading silver mine in San Bernardino County. The discoveries at Calico, less than 10 miles away, soon eclipsed news from the Waterman. Perhaps stimulated by the arrival of a second railroad in 1885, a school was built at

the milling camp, in front of the mill. This became the nucleus of the Barstow school district. The mine produced $1,611,429 from May, 1881, to mid-March, 1887. At the mill, the post office closed a few weeks later, in April. The buildings at the camp remained standing for several years.

The Discovery of the Calico Mines

CONSIDERING THE SUCCESS of the Waterman and Porter operations, further strikes in the region seemed assured. Parties of San Bernardino residents went out onto the desert almost daily, reporting their luck to an eager press in Colton and San Bernardino.

Less than 10 miles northeast of Grapevine Station rose a multicolored mountain resembling a "great mass of burnt volcanic rock" whose steep, rugged sides and summit "are covered with broken, sharp stones. In the canyon the walls rise almost perpendicular and in many places the formation is twisted and distorted as though it had at some time been in great agony. . . ." That's how one pioneer visitor described Calico Mountain, already known by that name.

The first persons to file claims in the district, in late March, 1881, were M. Lawrence and Hieronymous Hartman. (Hartman and his wife became prominent business owners in Calico.)

But of greater importance was the discovery of the Silver King claim two weeks later, in early April. The discoverers were a group of San Bernardino residents stirred by news reports of the Waterman and Porter claims: young Frank Mecham, a son of Lafayette Mecham, former operator of Fish Ponds Station, on the Mojave River; George Yager, Mecham's uncle; and Tom Warden and Hues Thomas, sheriff's deputies. Grubstaking them were Sheriff John C. King and Ellis Miller, the owner of Grapevine Station and ranch.

The Camp

A SETTLEMENT GREW UP on a mesa-like ridge at the foot of Wall Street Canyon. Most of the businesses flanked a single, twisting street.

Calico experienced little growth at first. The townsite contained not one building on July 4, and Wall Street Canyon contained only a cabin. Only two men lived in the district.

Not until Sam James, a few days later, started work on the Silver King Mine did the district experience much activity. As the summer of 1881 ended Sheriff J.C. King leased the mine; the ore assayed $100 to $2,000 a ton. Within weeks, prospectors were swarming over the region, as a Los Angeles daily reported: ". . . Notices and monuments are plentiful everywhere, and the number of locations made in all parts of the district are innumerable, it appearing that parties have located everything that has any appearance or resemblance of a ledge, waiting to see what the future may bring forth. . . . Prospecting parties are branching out in all directions, north, south, east and west, prospecting in every range that can be reached," limited only by their ability to bring their own water.

Meanwhile, Calico's business district had come to encompass three stores, a hay yard, and an assay office. Town lots were going for "reasonable prices." Ten men were working at the Silver King for $4 a day. Mrs. Hieronymous Hartman, the camp's first woman, arrived to open a boardinghouse. ". . . Wall Street booming. No banks yet," quipped one correspondent.

Promising strikes were made all through the fall and winter of 1881, but life remained dull. Residents watched for "capitalists, and waiting (like Micawber) for something to turn up. . . ." The camp

was so quiet that the sighting of a mountain lion [!] became the excuse for a hunt. As the holidays approached, Hartman began "agitating the question of a grand Christmas dinner; but as the turkey and chickens have not put in an appearance there seems to be a poor showing for anything better than the regular beans and bacon. . . ." Since mail was "rather irregular," stage driver Aaron Harrison offered to bring mail for anyone on his weekly trips from San Bernardino, "so we will, hereafter, be able to get news from the 'inside' at least semi-occasionally." ("Inside" referred to such areas as San Bernardino and Los Angeles.)

The lack of a railroad, gales, and record snowstorms that blocked most travel from San Bernardino failed to daunt the pioneers. After all, seven or eight men were working at the Burning Moscow Mine, lumber was on hand to put up several buildings, and the camp now supported a blacksmith shop, three stores, all said to be "doing a very good business," Barber's assay office, a good lodging house and a "good boarding house" kept by Mrs. Hartman, who was "prepared to give a good meal at all times," and even a shooting gallery. Above camp, the "Silver King boys have them a very comfortable house."

As 1881 turned into 1882, the press knew there was "no danger of the excitement at Calico dying out." Sheriff King called upon the editor of the San Bernardino *Index*, "beaming with smiles and having more rocks in his pocket than usual." And a Captain Covington left the editor "two very fine specimens" of silver ore. ". . . We esteem the Captain . . . and wish him all sort [?] of good luck . . . --he deserves every bit of it."

The wretched weather continued through January (1882). But employment at the King had risen to 10. "Judging from the number of boxes of miners' candles unloading" at a store in San Bernardino, the *Index* concluded that "there must be a good deal of underground work going on in our mines."

But the isolation could still make the district's residents anxious. The Southern Pacific Railroad began building an extension from Mojave Station to Needles, on the Colorado River, in February. Yet mail for Calico was still being delivered along a roundabout route of several hundred miles, through Rogers Station and Ivanpah. One correspondent fumed that letters "are generally a month old when we get them; yet they pass within two miles of camp but are securely locked in the mail sack. We have the most populous camp on the desert, yet can't get a Post office, and some of the boys indulge in cuss words when they find their mail worn out in traveling back and forth in sight of camp. . . ."

Other problems plagued the district. Because of the camp's remoteness, the cost of freighting was high--$25 a ton from San Bernardino--and the mines were still not producing ore.

Part of the cost of freighting could be attributed to the lack of natural resources. The Calico region supported little game, little of the land could be cultivated, and the weather underwent "unpleasant extremes." As for fuel, the greasewood (creosote) and cottonwoods along the Mojave River were sparse. The river was so low in March that it yielded only "steam." The veteran miner S.D. Blade concluded that nothing could "live on these plains without hauling grub, except land turtles or lizards or an occasional jack rabbit. . . ."

The Town

THESE DRAWBACKS must have dismayed the faithful. For by early March, the country had become "alive with prospectors, who go out on the desert wastes and sand plains to prospect, with

buggies and buck boards and two-horse wagons to haul grub and water. . . .” Fifty to 100 persons lived in town. E. Sommers, in the meantime, was shipping in lumber, five tons of machinery, and a smokestack to build a five-stamp mill. The miners would “hail with joy the speedy completion of the mill.”

The business district was worthy of a new town. Fifteen buildings lined the main street in late April; they included three saloons, two stores, two eating and lodging houses, and a hay yard. With eight families present, lumber was ready for the construction of a school and butcher shop. A post office, at long last, was established in late May, though a building apparently was not ready for service right away. Then, in June, a printing plant was reported on its way from Los Angeles to publish a paper “under the euphonious name of Calico Print.” A stage now began making 62-hour direct trips from Los Angeles; the fare was $10. One writer observed 18 “heavily laden” teams bound for the town on a single day. As summer began, Calico embraced 20 buildings and many tents; at Fish Ponds Station, two partners were making adobe bricks, for mud houses at Calico “will make cool and pleasant resorts. . . .” A hotel was now rising, and a saloon and another hotel were planned.

The boom showed two faces: the rawness of a mining camp, the vigor of a mining district.

The genteel Mrs. Harwood, for example, called the district one of the most “cheerless, desolate, uninviting” places she had seen. The area was crowded with about a dozen women and 300 men, many of whom slept in tents, a few under the stars, and others under overhanging rocks--anything to shelter themselves from the furious winds arid scorching sun. Yet only 70 men worked in the mines, and 30 others worked their own claims.

Calico resembled Tombstone, Arizona, or Bodie, California, to suit her. “. . . . Nights and Sundays the streets are thronged with men, who are of all grades of intelligence, and all qualities of character; some in point of decency being below the brutes. They run riot in their lusts, and already some of the most disgraceful and audacious proceedings have shocked the sensibilities of respectable men and women. . . . ”

True enough. But Calico had come a long way since the previous July (1881), as the Print pointed out: “. . . . If one year has made so decided a change, what may we not expect during the next 12 months? From present appearances we hazard the opinion that ere another year shall have rolled around our little wooden village will have given place to an active, but bustling mining town, second to none in this or any other State or Territory. Surely the richness and number of mines demand it.”

The *Print* was a bit premature. Summer brought intense heat, as usual, and an epidemic. The founders of the newspapers refused to leave. And by early September, the disease had run its course, the weather was pleasant, and travel was again increasing, for “it is likely that for some months to come there will be a tremendous tide setting this way. . . .” E.E. Vincent one of the Print's founders, fanned the boom when he showed a Los Angeles editor specimens “so rich in silver and so free from grit or other substances that they can be whittled with a knife without damaging the edge. . . . (The editor was referring to silver chloride, or “hornsilver,” which has the consistency of hard cheese.) Again the mines were in operation; again the town was “alive with business.”

When young Herman Mellen, then 15, arrived with his father in late September to build mine works, Calico, half buildings, half tents, made “quite a showing.” In a restaurant, the talk “sounded as if at least half the diners were wealthy men to whom a few thousands of dollars were a mere

bagatelle. While we ate, mills and roads were planned, railroads laid out and new camps started as though such things were mere incidents of the day's work. . . ."

The town still remained fairly small, with perhaps 300 residents. Yet it supported a flourishing business district. Among the businesses in October were three hotels, a new post office (part of a store), the newspaper, at least four grocery and general stores, a liquor-cigar store, a meat market, a saloon or two, three restaurants or boardinghouses, a wood and water dealership, besides a lawyer, notary, shoemaker, barber.

A reporter for the *Print* was proud of what he saw. Lining Main Street (October) were three hotels and seven cottages or other comfortable homes; the occupants ran assaying offices out of their houses. Near the lower end of the street stood the Calico Hotel and a restaurant called The Three Graces--it was more like a boardinghouse--which was run by three women, including the wife of merchant Joseph M. Miller. The trio also sold bread and pies. Farther up was the notorious Hyena House. The Hyena House was no ordinary hostelry. It was built in the hollow of a large rock. The outside was cased with barrel staves, and its rooms were holes the rock. It flew an American flag "and harbors untamable patriots, including the unterrified Dick Hooper, who was never defeated in an argument, from the discussion of the Darwinian theory to that of the late Ohio election. . . ." Near the head of Main Street stood the Pioneer Hotel, the first in Calico. It was said to have the best location and offer the best accommodations.

A wide variety of retailers advertised goods and services. The Pioneer Grocery Store, in the post office building, offered groceries, miners' supplies, and medicine. E.J. Miller's Pioneer Market sold fresh beef, hams, and bacon. J.M. Miller, who received weekly shipments from San Francisco, offered fine wines, liquors, and cigars, besides fresh Milwaukee beer. Alfred James, another merchant, sold Kern River flour and Hercules giant powder (dynamite), which he stored in a powder magazine build "at considerable expense." Adjoining the James store was the tent store of the J.A. Kincaid & Company. The rear of the tent, 22x44 feet, was occupied by the manager's family; the front was filled with shelves and counters holding the usual groceries and mining supplies. No wonder young Mellen considered the prices for food reasonable. G.D. Blasdel, a capitalist and friend of the Mellens, ran the Globe Chop House, where John Doyle kept his barber chair. Michael Redman repaired boots and shoes.

But water was expensive, about five to 10 cents a gallon. Evans & Phelps supplied "fresh water at reduced prices" from wells two miles east of town, near the dry lake. Even with careful use, Mellen recalled, one person could use one dollar's worth in a day or two.

Calico was civilizing rapidly when the Mellens arrived. The Reverend Charles Shilling conducted the first Christian service in late October at the James store. The audience, numbering 15 to 20 men, five women, and several children, listened attentively to the "eloquent divine," who saw the meeting as the start of "a new era in the history of Calico." More down to earth, politics occupied the attention of many, Postmaster W.L.G. Soule was running for justice of the peace; John Overshiner, publisher of the *Print*, was running for constable. (He lost.)

Education also occupied Overshiner's attention. When 20 children were found to be living in town (October), the paper demanded a school. After a census found 93 children of school age, probably in early 1883, the county supervisors established the Calico School District. Instruction began for 58 pupils in a small building lacking furniture, at least at first. Still, it was a start. Overshiner later served on the school board.

Calico in fact could be a fairly homey, family-oriented community. When Christmas of 1882 approached, a young store clerk asked .a friend of the Mellens to cook a large turkey his parents would be sending him. She could invite as many friends as she wished. But the turkey spent a week in transit and the weather was warm. Not wanting to hurt the youth's feelings, she commandeered all the canned turkey off the shelves of her husband's store. The turkey was delicious. Nobody, certainly not the youth, wondered how one bird could have 12 drumsticks.

But the season only brought misery to Herman Mellen. The winter and spring of 1883 were unusually cold and cruel. Flu swept the camp; drugs ran out; many residents died. His lungs nearly useless, Mellen coughed and strangled for endless days. To the rescue came Mrs. Annie Kline Townsend (Mellen mistakenly remembered her as Mrs. Belle Murdock), a woman prospector and mine owner whose cabin stood next to their tent. She sent over a cough syrup made of salt, vinegar, butter, onion juice, and honey. It worked like a charm. It was so potent that a misdirected squirt of it once etched the barrel of a shotgun owned by the elder Mellen.

Except for this new epidemic, Calico was "fairly started on the road to prosperity," declared the Colton *Semi-Tropic* at the start of 1883. Mining was increasing, roads were under construction, a mill--the Oriental--was almost ready to run, a railroad had just been completed near the Mojave River and a depot erected, buildings had been enlarged and others were planned, stores were getting stock, travel was increasing, the hotels and lodging houses were "doing a good business; and in short, all the various business enterprises in this vicinity are gradually growing in importance, and we may safely predict that before many months the mining operation here will be extensive, and will support a large and flourishing town."

Indeed, the frontier days were getting to be a thing of the past: government was well represented on several levels. The Calico area was a mining district, school district, voting precinct, and a court township. As a court township, Calico was entitled to elect at least one justice of the peace and constable. Among government officials' were the constable and justice of the peace, who could double as coroner's deputy or school-census marshal, perhaps a deputy sheriff, election workers, a mining district recorder and deputy, a postmaster, a deputy U.S. mineral surveyor, school-board members, and a teacher or two. The chief officials in a camp tended to be the postmaster, justice of the peace, constable, and secretary (administrator) of the school board.

Roads & Rails

THE LOGISTICS for supplying even a small camp like Calico were fairly elaborate. Two routes passed near the district: the old wagon road from San Bernardino and a Southern Pacific .Railroad line being extended from Mojave Station to Needles; the line opened up Calico to the business of Los Angeles, Bakersfield, and San Francisco.

The wagon road, which was of fair quality, was lined with supply stations. Rogers, near the later site of Victorville, even supported a post office (Desert), one of the few in the Mojave. Near the future site of Barstow was Grape Vine Station, where E. J. Miller sold mining supplies and general merchandise. Fish Ponds, on the Mojave River, between the later future towns of Daggett and Barstow, was frankly a delight. The river bottom was covered with cottonwood and mesquite trees. Sloughs in the river were filled with small fish and wild ducks in season.

Travel over the road could be heavy. Aaron Harrison was running express and passenger stages from San Bernardino twice a week in late 1882; they made the trip in a day and a half. And

the King Mine would haul in all supplies, feed, and hay from San Bernardino and send out 20 tons of ore a day to a mill at Oro Grande. This immense freighting enterprise employed 17 men and 130 mules.

Considering the heavy amount of traffic, the Southern Pacific line arrived none too soon. The extension was completed past Waterman's Station by October. And an agent of the railroad began interviewing Calico's residents about the site of a proposed depot. The coming of railroad service elated Calico's citizens; they "had the honor of attending a ball" at Waterman's. The ball offered "excellent music and a fine collation. All enjoyed themselves in the mazy dance; we wish we had been there," wrote an editor of the Print. The citizens would not be disappointed: in November, trains began running to the new depot, Calico Station, on the Mojave River, about six or seven miles from the mining camp. (Calico Station would be renamed Daggett in early 1883; Waterman's became the nucleus of Barstow.)

The construction of the Southern Pacific line redirected Calico's trade for a while, away from San Bernardino. Even before the line's completion, J.M. Miller was bringing in goods for his store from San Francisco, a San Francisco dealer was offering to buy are, the James store was selling Kern River flour, and two Bakersfield businesses, including a bank, were advertising in the Print.

Rugged Individualists

DURING HIS TWO-AND-A-HALF YEARS in Calico, young Mellen learned how much hopeful men, "with no other capital than strong hands and the will to do," could do.

The largest group of these individualists was "chloriders" or "tributers," independent miners who leased the many claims within five miles of town. They paid for their own supplies, sacking, hauling, and milling and paid the mine owners a royalty of about one-fifth the value of the ore. (Perhaps because so many miners lived at the outlying properties, the population of Calico made up only a small part of the district's population.)

Two of the district's mavericks were women. One was the "lady assayer," Mrs. C.H. Cooke, the wife of an assayer. As Mrs. Harwood found, Mrs. Cooke had "spent the greater portion of her life in the mines, and feels most at home among the precious metals. . . ." Even better known was Mrs. Annie Kline Townsend. Though well-educated and raised in luxury in Mississippi, Mrs. Townsend supported an eight-year-old daughter by prospecting; she sometimes traveled up to 25 miles a day. She had to begin work at Calico under an assumed name--perhaps this is why Mellen called her Belle Murdock?-- for "she has been censured and criticized by numbers of weak, dependent, effeminate creatures, who could compel every woman to conduct themselves according to their ideas of propriety. . . ." Mrs. Harwood considered Mrs. Townsend "a superior woman, whose example is worthy of emulation."

Mrs. Townsend was also considered a good miner, as a reporter for the Print learned while strolling among the mines, including her Golconda in September, 1883: ". . . . While enjoying the hospitality of Mrs. Townsend in her neat and comfortable cabin in Deep canyon, we were shown an ore sack full of beautiful specimens from the Golconda, some of which contain bright particles of wire silver. Mrs. Townsend carefully assorts all her own ore and has become quite a practical expert in mining business."

The Calico *Print*

Calico's newspaper, the *Print,* was almost as responsible as the mines for putting the district on the map. The chief founder was John G. Overshiner, 31, an itinerant printer. Overshiner was well prepared, arriving with two typesetters, two pressman, and a job printer named E. E. Vincent, his partner. The plant included type and a Washington hand press. Because the type arrived "pied," or mixed up, the first issue totaled two small pages and, though dated July 8, appeared four days late. The paper then grew to four pages, 24x36 inches. The name was displayed in bold letters with a reproduction of the seal of California inserted between the two words. The first page was devoted to advertisements, boilerplate features, and poetry the second page given over to state and local news, the third devoted to local news, and the fourth to ads. One-year subscriptions cost $4.

Overshiner's editorial was a model of clarity and humor: ". . . . Apprehensive that the casual observer of the heading of this sheet might think that it was a piece of common fabric sold at fourteen yards for a dollar. . . . --we simply say, 'This is a Newspaper.' It is not an organ. It will not be used to grind out some favorite tune or hobby . . . . We shall endeavor to furnish our subscribers a paper that they will be proud of, and take pleasure in sending to distant friends. . . We will assure you its colors will never fade so long as we receive a generous supply of the 'color' that is being daily taken in abundance from some of the many rich mines of the district."

During the next five years, the *Print* would serve as the community newspaper of the Mojave Desert, faithfully reporting the news of Ivanpah, Mescal, Providence, and other districts. For reasons that are not clear, Overshiner moved the *Print* several times between Calico and Daggett. The publication day was also moved to Sunday.

Bismarck Camp

CALICO GAVE RISE to an important satellite settlement: Bismarck Camp.

The camp was a creature of the Bismarck Mine and was located in an area dubbed East Calico. Despite the heat of August, 1884, about 250 men were said to be working around the mine, where "somewhere in Oriental canyon we expect a town to spring up that will vie with Calico. . . ." The mine itself was employing 20 men and sending out 10 tons of ore daily to Hawley's mill.

About 100 men were employed at the camp in December, for "quite a village" was in fact ·springing up. The settlement's 25 buildings included two good hotels, a store "doing a profitable business," and a saloon "under construction."

Mines & Mills

AFTER LATE 1882, the history of the town becomes sketchy: only a few issues of the Calico, Colton, and San Bernardino newspapers exist, and other sources provide little information.

But other publications, well preserved, give detailed accounts of the growth of mining and milling in the district.

All during the fall of 1882, as Southern Pacific construction crews neared the district, capitalists were building up their properties. Awaiting the railroad and ore buyers, one mine

stockpiled ore worth up to $125 a ton. The Bismarck packed its ore to town on burros for shipment to Oro Grande. In East Calico, a dozen men were building a road up the canyon to the Oriental and Occidental. At the King (December, 1882), the Mellens and their crew completed an enormous tramway trestle jutting from the hillside and finished a long chute that carried ore to huge bins. When the Mellens finally dumped some ore down the chute, "we had every man, woman and child out in the street looking up at the mountain. After a moment of silence, they saluted in true American fashion, with a mighty cheer."

Throughout early 1883, roads, tramways, chutes, and mills were going up everywhere. A boiler and engine were in place at the site of the Oriental mill, near the river. The labor forces were still fairly small, about four to 16, but the district abounded in small mines.

Yet several of these companies would build substantial works. The Mammoth (May, 1883) had a 600-foot tramway and a car track running to a 200-lion ore bin; the Silver Odessa, meanwhile, had a good, comfortable bunkhouse and boardinghouse. Under construction were a road, ore bins, and turntable. As the Print reported, all "the boys in the camp are at work. . . . There is work for all here that will work, and we have no use for bums." Work was advancing so rapidly that by May, the "roar of the ore cars ascending and descending the chute, and the loud reports of blasts can be heard at the mine at all hours of the day" as several companies blasted away bluffs.

The Silver King Mine was indeed monarch of the district. One reporter predicted that its output would "eventually place it foremost among the great mines on the Pacific coast. . . ." The King was sending out 20 tons of ore to Oro Grande daily. Despite 115-degree heat in July, 1883, the work force rose from 40 to 55 in only a few weeks. The Oro Grande mill was turning out $50,000 in bullion a month; the 100th bar was carefully packed up and sent to Milwaukee, the home of the largest group of investors. In early 1884, Hues Thomas and John C. King brought to San Bernardino 18 "immense" bars worth $31,570--the result of a 14-day run of the mill. The Index bragged that citizens could view "this immense deposit of silver bullion," the largest shipment of bullion sent from Southern California, at the express office. By mid-February, the King's shaft was down 600 feet.

By now, early 1884, about 300 miners and chloriders were at work.

Though the plants were small, processing ore was as big an activity as mining. In 1883, Hawley's mill, eight miles from town, had shipped out $300,000 in bullion to San Francisco, and the Oriental mill had sent out $200,000 in silver. In 10 months, the Oro Grande mill had turned out $400,000 in bullion from the King alone.

Not even the burning of the business section hindered the district's advance. For as the *Print* observed, "the business men had the fullest confidence in the stability of the camp. Even when their business places were in ashes their confidence did not slack," and they rebuilt completely. ". . . The town is now looking substantial, lively and prosperous. . . . Calico's colors are not the kind that easily fade." In fact, families were pouring into the district.

The *Print* was ever the optimist. It must have expressed the feelings of many in May, 1884, when it declared that at no time "has the camp appeared as lively as at the present time. All the principal mines are looking well and working their full complement of men, while the chloriding element is doing a wonderful work in the development of property that a year ago was considered relatively worthless. By slow degrees our prospectors are beginning to realize that every square yard of ground within the mineral belt must be inspected. . . ."

Technology was now beginning to spur the boom. The construction of several small mills and the railroad had been a start. When the Daggett Sampling Works started up in June, 1884, with good results, the *Print* pointed out that the Daggett-Calico area was becoming an important business center. ". . . . Our merchants and business men should awaken to the situation and be prepared to meet the demands of the trade that will be centered here for 150 miles around. A bank should be started here at once, for a business of $100,000 monthly requires it. These are solid facts, as solid as the ponderous silver bars that are daily dumped into our Express office."

The King was in the vanguard of making improvements. It considered a plan to lay a pipeline from Calico dry lake to a reservoir in the halls, from where it could be piped into town. As soon as poles arrived, the King would build a telephone line from, Daggett and its mill to its mine. It also planned to lay a pipeline to carry oil from Daggett to its mill and install an engine to operate lathes and other machinery to make repairs. (Apparently, only the phone line was built.)

Certain traits of the district required labor-saving devices. For one thing, mining did not slacken during the summers, as it did in other desert areas. In one week alone during the summer of 1884, Wells, Fargo shipped out $12,775 in bullion from the King, $5,287 from the Garfield. The shipments that season netted $155,470.

Then, too, chloriders were a force to be reckoned with. When the leases of 20 chloriders expired at one mine, "the life and activity existing in that vicinity during the summer" diminished greatly. The chloriders had taken out $40,000 worth of ore, of which they paid the owner $9,000. In some cases, these independents "threw $75 rock over the waste dump, as it would not pay them wages after they had paid all the expenses of mining, hauling, and milling the ore. . . ."

Chloriders could be notoriously wasteful. One solution was a mill where they could process their ore cheaply. And that mill would be Barber's mill, built just below the townsite. A foundation and part of the framework were built in late 1884; a private home, lodging house, boardinghouse, superintendent's office, and assay office were under construction. A test run of the machinery was made in December "to get everything in good running order before commencing on the hundreds of tons of ore piled up on the platform. . . ." Two months later, Barber's mill was running all the time on "custom" (outsiders') ore. The plant was called "one of the most complete, best arranged and best managed silver mills on the coast, of its size." The mill even had a good, abundant supply of water. Five more stamps were added in March.

Because of the district's rugged terrain, the mines were grouped into several canyons above town. Here's how the district shaped up in late 1884:

THE WEST CALICO mines lay several miles northwest of camp. The Waterloo and Sue were the chief properties. The Sue operated near the top of the wall of a deep canyon, 500 feet deep in place. A narrow tramway, nearly 300 feet long, ran nearly straight up; cars named "Go Devils," powered by a hand windlass, carried ore to the canyon floor. There, buildings were due to replace the tents used for lodging and boarding.

THE EAST CALICO mines operated to the northeast of Calico, in Garfield (since named Odessa) Canyon. Included were several moderate producers: the Garfield, Snow Bird, Odessa (Silver Odessa), Blackfoot, and Bismarck; slightly to the west of the canyon lay the Thunderer and Occidental. The terrain was so rugged that ores were said to be "virtually quarried out of the hills."

The (Silver) Odessa made especially great progress during early 1885. The newly built ore bins could hold 140 tons; a 300-foot chute led to a solidly built ore house, which "is very pleasantly situated on a prominent ridge from which point the ore assorters, on a fervent summer's day, can gaze upon the hazy landscape between Calico and Daggett, and relieve their eyes with a refreshing view of the placid surface of 'Dry Lake.'. . . ." From the ore house, where 20 men worked sorting ore, a 600-foot track led to the main tunnel.

The East Calico mines supported large forces. In early 1885, the Bismarck employed 24 men, the Garfield 20 to 30, and the Occidental 34 (March).

IMMEDIATELY NORTH OF TOWN, on the slopes of Wall Street Canyon and on nearby King Mountain, were the Oriental, Burning Moscow, and Silver King, among other properties. It was said that to "know the King is to know the district. . . ." Overlooking town, at the head of Main Street, the King would remain the district's leading producer. It was paying as much as $30,000 a month in dividends in early 1885 and had produced $702,650 in bullion from early 1884 to mid-1885. The property had produced so much ore, ironically, that several of its 100 workers had to be laid off to give its teams a chance to move 3,000 tons of ore that had accumulated on its dumps. One writer praised this "excellent mine" for having been "unceasingly, quietly and unostentatiously" operated by the Oro Grande company for two years; the mine was being "cautiously and systematically developed," though the district's deposits in general were gouged out more than mined.

The King was quite a hive of industry. The men, who received a customary $3.50 a shift (of nine hours), worked day and night, even on Sundays. The men were free to board where they pleased, "promptness and sobriety being only required by the company." The operation consumed one ton of candles a month, the company paid $20,000 a month in wages, and water used for drilling and drinking and timber (brought from Arizona) cost the concern heavily.

Working conditions, however, were fair at best. The lower levels were so warm that candles burned rapidly. Dust filled the main and side tunnels. An ore car would raise a cloud of dust "that the initiated would think must be unhealthful" to miners.

Town Life

CALICO PROBABLY CAME OF AGE during 1884. Reminiscences and scattered issues of the *Print* and other publications reveal a rich social and business life.

CONSIDER CALICO'S POLITICS. The camp gained outside recognition during the campaign of late 1884. Grover Cleveland was running against James G. Blaine for the presidency. On the regional front, R.F. Del Valle, a Democrat, was running for Congress against Republican H.H. Markham, an official of the Oro Grande Company.

The issue in California was appropriate for a mining state. For years, hydraulic mining in the Sierra Nevada was pouring silt into the Sacramento Valley and ruining prime farmland. In the courts, the farming interests were waging a successful battle to severely restrict the mining operations. Del Valle sided with the farmers, Markham with the miners.

Del Valle arrived first--alone--in late October. His was the first appearance made by any major candidate in camp and was its biggest event. A brass band had just been organized, and the

Democrats had spent 10 days in preparation, stringing Chinese lanterns over Main Street and attaching torches to buildings.

Del Valle's appearance turned out to be a strange rally. The “excellent music” provided by the band consisted of only part of one lively tune repeated several times--its entire repertoire. And chairman Levi (Pa) Pennington, a restaurant owner and encyclopedia of Democratic Party history, was repeatedly interrupted by wags--Republicans?-- demanding to know about some remote political event. Happily, Del Valle was too seasoned a candidate to allow this routine to continue. He finally interrupted Pennington and asked him to explain some obscure point. Pennington was only too happy to deliver another lecture. The result was that Pennington spoke for more than an hour and Del Valle spoke about 20 minutes, most of the time complimenting Pennington and praising his knowledge of party lore. Del Valle no doubt gained many friends and votes.

But Markham, who arrived a few days later, enjoyed a greater advantage. He favored hydraulic mining and spoke in a mining community. He also arrived with a considerable entourage, including all the Republican candidates in San Bernardino County. It also helped that most of the region's newspapers, including the *Print*, were stalwart Republicans.

Markham was hailed as a hero, according to a correspondent for the Los Angeles *Times.* Markham spoke from a “tastefully decorated” platform to an audience of 500, made up of miners, their women friends, and visitors from San Bernardino. “. . . Torches and lanterns made the near vicinity of the platform one blaze of light. A brass band and fine glee club made enlivening music. . . .” The audience “listened patiently for three hours to Republican claims and logic. The cheers and applause throughout the various speeches forces one to think that Democracy never was so solid here as it’s supporters claimed. One thing is certain--Democracy has been running a campaign of lies and misrepresentation in Calico. . . .”

Markham won easily, but Cleveland was elected president. CA few months later, the Democratic Club gave a ball to mark Cleveland's inauguration. The Republican *Print* conceded that there “was a large attendance and everybody had a royal good time.”) .

Other visitors of note were making the town itself known to the world. When Frederick W. Smith, an agent for the *Mining & Scientific Press*, traveled along the single “narrow and serpentine street” in late February, 1885, he was at once amazed and appalled. Smith was not the first--nor would he be the last--to remark upon the two-sided nature of the camp. “. . . Small, hastily-built houses are the order of buildings, only a few two-story houses gracing the camp. Saloons are more than numerous. Business generally is overdone, and the number of black-legs and tin- horn gamblers that infest the place is remarked by the newcomer. . . . The Occidental and Whitfield House are the only hotels, and they are pushed to their utmost capacity to accommodate the travel that is arriving daily. The camp is a good one, but at present is overestimated and overcrowded by men out of money and work. Capital, development and a chance is all that this camp needs to be a second edition to the Comstock at no great distant date.”

Happily, the cost of living remained moderate. Cold beer cost five cents a glass; water cost three to five cents a gallon. Wood sold for $10 a cord. Board cost $7 to $8 a week.

As Smith noted, business was indeed overdone.

There was, for example, no shortage of saloons. In Daggett, Quinn and Sutcliffe were building a two-story, 12x16-foot addition to their brewery in February, for “their business has been better

during the winter than they had anticipated and they are preparing for the expected boom in the summer." In Calico, Stocking and Martin were "doing a paving business retailing liquor to the miners, and many a demijohn is filled with the ardent daily. Their liquor, 100 proof, is sold direct from the barrel and is warranted as represented." Only weeks later, the partners were "meeting with success in their retail liquor business beyond their most sanguine anticipations. They did not expect in such a short time that their sample rooms would be the scene of so much animation as the crowds of miners file in and out, showing by their countenances the satisfaction they feel [by] partaking of liquors that are unexcelled in the local market. . . ." During February, their saloon had taken in $1,490, or $53 a day,

And so it went. Other saloons opened or expanded or reported good business. Kirwin and Flynn in March enlarged their saloon again, adding 40 feet to the front. ". . . They spare no pains to make their hall attractive, and furnish of evening free music with organ, violin and other instruments."

The hotels were also "all doing a lively business. The Occidental has been full to overflowing since the day it opened. . . . and its table filled with day boarders besides. . . ." The Whitfield House went in for elegance. The doors were "grained," gemstones were painted on the baseboards, and wallpaper and paint laid on. A verandah extended from the second story, the furnishings were "excellent in every way," and the rooms were considered "bright and cheerful"--each even had a rope and- anchor fire escape. (Not to be outdone, the Occidental soon added a verandah, too.

The camp's three general stores fared almost as well as the hotels and saloons. J.A. Johnson bought the James brothers' store in March and moved in merchandise and post office fixtures, for which a room had been prepared. The J.M. Miller store was enlarged by 20 feet, and merchandise would be moved in from its warehouse. Though it would be taken over by creditors, Remi Olivier's J.A. Kincaid &. Company had been expanded until it was now 75 feet long; it was "packed with goods from one end to the other."

Calico also supported a rich array of smaller businesses. A Mrs. Elliott furnished ice cream for picnics, balls, and other entertainments. Tailor A.S. Mettler made "suits that fit, at prices to suit the times." At the Globe Restaurant, Mrs. M. F. Oswald cooked meals at all hours for 100 boarders a day. Mill superintendent Godfrey Bahten and stage operator William Curry owned butcher shops in Daggett, Grapevine, and Calico. During late winter and spring of 1885, Curry slaughtered 279 head of cattle, 140 sheep, and 80 hogs, all valued at about $10,000. Soule and Stacy, who once kept the post office, sold watches, clocks, jewelry, and sewing machines. Two saloon owners built a large bathhouse for men and women. At least three lawyers and four doctors practiced in Calico. Though nearly deaf, old Dr. A.R. Rhea turned out to be the mainstay of the camp's medical profession, delivering most of its babies and aiding the victims of mine accidents. One doctor also owned a drugstore.

Itinerant businessmen supplemented the offerings of Main Street. A photographer set up a large tent in March taking pictures of the town, school, mule teams, and mines. Repairs to the teeth were provided by a dentist from Santa Ana.

DAGGETT, MEANWHILE, was flourishing. School districts were organized there and in Needles that spring (1885). Overshiner served as one of the three trustees. Daggett's residents and business owners took great pains to enlarge, remodel, and paint their buildings. Perhaps because Daggett was near the Mojave River, trees had been--or were being--planted in front of the railroad hotel, a saloon, a restaurant, a store, and several houses. Near the Quinn & Sutcliffe brewery

awnings and trees were added so that the place “will be a pleasant place to sit on a summer eve's and quaff the foaming beverage. . . .” Freighter Joseph LeCvr, who was also deputy sheriff, refurbished his home, built a picket fence around the yard, and planted trees and shrubs. As soon as Daggett's trees “grow to considerable size and the gardens are in a more flourishing condition the town will look like a verdant garden,” the *Print* predicted.

THE ENVIRONMENT invited some modification. The *Print* believed that trees could grow in Calico; the young cottonwoods in front of a merchant’s house were “flourishing and bid fair to become splendid sunshades.” The temperature hit 104 degrees in late May. The *Print* quipped in July: “As an example of how hot it is in and around Calico we will relate the fact that two lizards were recently seen on the desert in the act of standing on their hind legs making a shade for the other to cool off under. First one would stand up and then the other, spelling each other. Next!”

(Still, the arid climate had its advantages, as the paper remarked that spring. Though Calico “has hots and colds, her fever and pneumonias, her snakes and tarantulas and centipedes, and no end to ills that mining camps are heir to, she enjoys perfect immunity” from bedbugs, at least.)

CALICO DEVELOPED some institutions to make life more palatable, if not quite comfortable. After another epidemic in the winter of 1884-1885, a sanitary commission was organized. It apparently proved to be ineffective. As late as May, 1885, the camp remained “positively filthy in some quarters and the accumulation of nastiness is on the increase. Only a few days ago we observed a dead turkey sweltering in the sun, but we knew he was there before we came within sight of -him, for the breeze told our nose about it--fumigate, fumigate.”

Self-government proved even less popular. In February, 1885, the citizens “sat down rather incontinently” on a proposal to incorporate Calico. The property owners and taxpayers seemed to feel that cityhood would “prove too expensive a luxury to offset the advantages of local government.”

It was not that Calico's citizens were apathetic about political life. They enthusiastically supported all variety of candidates, maintained a school district, and certainly turned out to vote. During an election for mining recorder, 396 votes were polled for three candidates.

But except for the school, the camp's citizens preferred to let a few private organizations and the county provide basic services. In March, the board of supervisors declared the district's chief roads, including Main Street, public routes. A county road supervisor at once began removing rocks and brush and widening Main Street and the road to Evans Well. “. . . By a little care on the part of the citizens the streets can always have a tidy appearance,” the *Print* pointed out.

The roads were indeed heavily used. Two stage lines made daily trips from Daggett. H.E. Evans, the water dealer, began selling coal. (A phone line ran from Daggett to Calico, but its use was apparently limited to the Oro Grande Company.)

Water service · would remain in private hands. Several merchants organized the Calico Water Works Company in March, 1885, and soon began sinking a well. Good water was reached at 92 feet; a pump and 60,000-gallon tank were later installed.

POSTMASTER E.E. STACY, one of the organizers of the water company, was responsible for a less orthodox form of delivery. One morning in 1883, Stacy found a stray black-and-white

shepherd at his doorstep. Stacy adopted him and named him Jack (one account gives the dog's name as Dorsey). The postmaster soon found that Jack would willingly and reliably carry mail in a saddlebag-like pouch on his back and put him on a regular, two-or three-mile route to the Bismarck mines, where Stacy had a partner. At 9 every morning, Jack would leave Bismarck with mail and take it to Calico, where the pouch was removed. Until 4:30 in the afternoon, "Jack is a dog like all other dogs, romping and playing with his fellow dogs, and taking part with them in their amusements. . . ." But when the mail bag was put back on, "the dog disappears, and in his stead stands a being of superior intelligence' who knows his duty and delights in the correct performance of it. . . . when little curs run out and offer to fight him he only laughs. Jack's daily routine teaches a greater moral lesson than all the sages between here and Halifax."

OVERSHINER needn't have worried. Calico was a civilized camp.

ONE OF THE INFLUENCES was religion. Calico never had a church, but services were held often. Many Catholics lived around Calico. Lectures given by the Reverend Father Cook in early 1885 "were listened to with marked attention. The erudite priest seemed to satisfy the audience. . . ." Weeks later, a large congregation heard the Reverend Charles Shelling of Riverside, who "preached an interesting and practical sermon." One clergyman, the Reverend D. McCunn, was so active in cultural affairs that when he preached his farewell sermon in July, his "friends bade him farewell with many expressions of God speed and wishes. . . ."

Except perhaps for the *Print* itself, the Calico school probably had the broadest influence on the town's moral life. Perhaps because of the district's isolation, teachers were hard to keep. Teacher A.L. Hamilton, who stayed only four months, reported 65 pupils enrolled in March, 1885, and 65 other children in camp. Perhaps not surprisingly, citizens voted a $3,000 bond issue in April to build a larger school and ordered a library of 60 volumes; several books had already arrived, and the board was expected to let the public use the library under rules it would adopt. The *Print* felt that the school trustees deserved "great credit for the efficient manner in which they conducted the election and for their excellent report on the subject. . . Calico will soon have a splendid building in which 'To rear the tender thought and teach the young how to shoot.'" When the school term ended in early June, about 46 children had regularly attended--an excellent record for a mining camp. .

Calico was no haven for weather-beaten bachelor miners: youths made up a large part of the population. And the *Print* doted on them and their activities. The paper was horrified to report that the constable's six-year-old son had been nearly crushed to death when a mule knocked him under a large ore wagon. Happily, such painful incidents were rare. When a man saw two teen-ager's planting stakes and stretching old pieces of wire around a section of trail, one of them told him that they were fencing in a lot. But, the gentleman objected, the boys were too young to hold real estate. "You bet we can. If anybody tries to jump my lot, I'll shoot him, sure pop." The *Print* grew misty eyed when it learned that young Brunett Lamountain was building a miniature stamp mill "that works perfectly as the Oro Grande or any others . . . . Such precociousness should be encouraged and assisted." A few weeks later came the report that the "miniature quartz mill erected and run by the Juvenile Company of Lamountain and Co., running nicely. Two additional stamps have been set up and a larger boiler placed in position."

A TOWN HALL nurtured family life. Spending about $760, the women had the hall built in early 1885. By renting the building out for lectures, dances, and entertainments, the treasurer reported in April, the town hall association would soon be free of debt.

The town hall was well used, sometimes once or twice a week. Several leading citizens, including old Dr. Rhea, organized a literary and debating society in February. The group usually met every Friday evening. Since the *Print* considered such an organization "a benefit to any community, it is hoped that the people will give attendance and help to sustain it. The ladies are especially invited to attend and to take part in the exercises." The society debated such topics as the value of a college education and the right of Indians to vote. The society soon attracted 20 members and created a committee to organize the festivities for July 4.

But in general, the hall was devoted to entertainment. The town hall association gave a musical and literary entertainment in March to raise money for the hall. For 50 cents (25 cents for children), members of the audience could enjoy 16 performances one night, including an Italian hymn sung by a choir, duets, readings, recitations, songs, and pantomime. A dance capped off the evening. Except for uncouth noises made by boys in the rear, the program turned out to be a resounding success.

Calico's citizens knew how to enjoy themselves. The women gave a "bowie knife" entertainment in June. A few weeks later, a traveling soloist, girl dancer, and impersonator performed.

But dancing was the chief pastime, as the *Print* explained in May, 1885: "When Calico wants to dance she doesn't go to any great fuss about sending bell ringers and town criers to announce the fact. She simply hires the music, plants herself in the Town Hall and awaits coming developments. Developments soon make their appearance in the shape of broadcloth, diagonal, etc. Developments seem to like it as well as Calico."

That same week, the employees of the Silver Odessa Mine gave a ball in the dining room of the boardinghouse. From town, "merriment seekers" arrived in barouches, chariots, gigs, rockaways, buggies, and other carriages, danced until 3 o'clock Friday morning, "and everybody had a good time."

Daggett was equally festive. It even supported a glee club. Calico's residents would flock to Daggett like flies to food. At a lavish ball held at the railroad hotel, the dinner featured half a dozen large frosted fruitcakes and other pastry. The dance, as usual, lasted until the early morning, "and everything passed off smoothly and happily . . . ."

Next to Christmas, July 4 was the most festive day of the year. Daggett's residents held a picnic party at Hawley's Station, which offered sports, a dancing pavilion, beautiful shade trees along the Mojave River, and green fields, "where all the denizens of the sun burned hills of Calico, and its surroundings can find perfect enjoyment in a day's recreation in the country." At Calico, the women of the literary society put on a celebration that would "eclipse any previous demonstrations on that day." Calico's celebration included the customary oration, the reading of the Declaration of Independence and poetry, and music, dancing, games, exercises, and refreshments "so that the occasion will be a most interesting gala day when everybody can have a good time."

The July 4 celebration still failed to satisfy men and women living in a bleak environment. "Now that the 4th of July is a thing of the past, what are we to do next to amuse ourselves? We would suggest a moonlight picnic, instead of having one in day time: sweltering under the hot rays of old Sol."

ENTERTAINMENT COULD BE quite physical. At a literary society meeting, amateur athletes jumped during the evening. Meanwhile, in May, the "base ball has come forth from its hiding place, and is pitched and tossed promiscuously by the base ball artists."

Calico was especially excited by a boxing match in March. Several hundred persons paid $1 or more to watch a "glove contest, to a finish" between Dan Connors of Boston and Frank Smith of Chicago. After skirmishing during round 1, they finally started throwing "some very lively give and take blows." Smith closed in and threw Connors. But Connors was better trained. During the third round, it became clear that Connors would exhaust Smith, who "came up rather low" during round 7. Connors then gave Smith "a stunning blow on the muscle of the left arm," rendering it useless. Connors hit Smith on the jaw, knocking him down and out in 10 minutes. Connors won the gate receipts of about $268, but to show his good feeling toward his foe, he gave him $25 in cash.

CALICO HAD ITS ROMANTIC SIDE, TOO. As the days became warmer, a party of picnickers left for Hawley's Station, where a "moonlight dance will be, no doubt, as enjoyable as it is romantic. . . ." Meanwhile, that May, several men and women visited a cave near the Oriental Mine and "spread a choice collection of edibles beneath the roof of what once probably is an ancient mine. Some of the male picnicers say that a trip around the hills and a 'romantic dinner. . . . is the best kind of amusement and recreation."

The *Print* was not above making light of the romantic scene. "Time, midnight; scene, Wall Street; man and woman softly stealing up the street. Man in stockings closely following behind in the shadow of the abrupt side, unobserved by parties in front. Parties in front pause; man behind stops; and here we draw the veil."

Romance could lead to only thing one, as the paper observed in June: "Now that the marriage boom has been inaugurated, it is in order that the boys keep it going in good style, (providing the girls are willing)."

Two persons were willing. After Miss Mollie Turner and William Kirwin got married in the town hall, everyone moved to a house, where they ate and drank to "the health and prosperity of the happy pair in 'a varied assortment of cake and wine. Congratulations, handshakings, and some kissing, (by the ladies) were indulged until nearly midnight, when the guests departed. . . . During the evening Kirwin & Flynn's Saloon was open to the public, and so was all the liquid refreshments it contained, everything being free gratis for nothing. . . ."

BUT THE DISTRICT could also be fairly violent. Two Daggett men were arrested, tried, convicted, and fined for firing their pistols. "Pistols are apt to languish peacefully in the pockets of their owners in the future unless intended for effect. . . ." At a Calico saloon in April, James Jordan stabbed Pat Oday in the back with a butcher knife. Jordan had been drinking and tried to settle a grudge. Jordan was taken to jail in San Bernardino.

But vice was a problem to be winked at. Calico's best citizens were shocked to learn that Justice E.S. Williams had ordered the prostitutes of the Dance House arrested again. They quickly petitioned the local deputy district attorney, C.J. Perkins, to give up prosecuting the prostitutes. ". . . It is the impression in Calico that the above characters are receiving more punishment than is due them and that it is no worse for them to ply their 'avocations' on the main street of Calico than it is for the demi-monde to flourish on some of the principal streets of San Bernardino in the midst of respectable families."

Crime could sometimes be a matter between friends. Mike Sullivan and John Brown got into a fight while playing poker in Andy Laswell's saloon one Sunday. Sullivan accused Brown of cheating and grabbed all their money, about $40, and started running. Brown overtook Sullivan. In the struggle, Sullivan ran his arm through a store window and cut the main artery of his wrist. Sullivan was taken to a doctor's office, where his wound was bandaged thoroughly. Sullivan gave up most of the money the next day. “Ill gotten games are dearly won,” the *Print* moralized.

ONE OF THE MOST BIZARRE INCIDENTS took place at the May Day Ball and Strawberry Festival, held at the town hall. The festivities began peacefully enough with a Maypole dance and the crowning of the Queen of the May. That night, teacher A.L. Hamilton found himself sitting with one of Mrs. Harwood's daughters, Rose, enjoying refreshments. About two dozen couples were dancing to throbbing music while Cupid was making his rounds.

Trouble loomed about 2 o'clock in the morning, when mine superintendent James Patterson was called outside. Two friends, James Marlow and W.E. Stoughton, accompanied him. Just outside, the three were pelted with eggs and perhaps a rock or small sandbag.

Patterson sprang into action. He chased one disheveled assailant, W.H. Foster, through the hall, firing wildly. Dancers scattered, tables were overturned, the music stopped. A reporter wrote that the “scene in the hall was one of confusion and distress, several ladies fainting, all of the women and children being greatly alarmed. . . .” Patterson's bullets lodged in the walls and ceiling, even in a nearby Chinese restaurant.

The citizens were “greatly incensed.” Foster and Marlow were arrested, then released on bail. In justice court, Foster pleaded guilty to assault and was fined $20; Marlow changed his plea to guilty and was fined $50; Stoughton was tried by a jury on a misdemeanor charge and acquitted.

BUT CRIMINAL INCIDENTS were minor compared to mining accidents. They tended to be gruesome, if not fatal. In mid-July, miner John Halley fell from a level of the King Mine and was severely bruised; he would recover with difficulty. Days later, miner John McDonald was .fatally injured while checking an unexploded charge. The blast threw up rocks and blew out both eves, mangled his arms, broke one leg. Doctors were called at once and “did everything in their power to alleviate his pain.” After suffering “untold agonies,” McDonald soon died.

The Decline

IT IS DIFFICULT to fix a date for the beginning of Calico's decline. Ominous signs were appearing as early as the first months of 1885. Several businesses, including a restaurant and both stage lines, changed hands. Other businesses, such as Mr. Elliott's fruit and ice cream stand and Miss Derby's millinery store, closed. The J.A. Kincaid store was attached by its creditors.

By then, the mines were extracting mostly low-grade are. Suffering from “hard times,” in fact, the companies began cutting their miners' wages, to $3 a day. The *Print* at first agreed with the move but later realized that the cuts would tend to “discourage good miners” and would force them “to strike out for themselves, hence many are busy prospecting or chloriding on leases. . . . inexperienced men employed in the mines will also be infected with a desire to better their condition . . . .” In May, Calico was “becoming duller and hotter every day. There are just as many men at work as ever before but the boys evince a disposition to keep their coin in their pockets.”

Though the price of silver had just jumped to a healthy $1.09 an ounce, the *Print* was alarmed that the "friends of silver" might be "lulled into indifference."

The district could not afford to become indifferent. This period of maturity and early decline coincided with the entry of a second rail line into the desert. The line was the Santa Fé - backed California Southern Rail Road, which had recently been built from the San Diego area to San Bernardino. An extension from San Bernardino to Waterman's station, 65 miles, was surveyed in early 1885. Then, working simultaneously from the two points, armies of white and Chinese dug cuts, built grades and bridges, and laid rails. Near Waterman's yard, roundhouse, depot, and hotel were erected. This operation became the nucleus of Barstow. The extension was completed in November.

The completion of the railroad cut the cost of freighting to and from the mines and proved to be a boon for San Bernardino and Los Angeles. But the fortunes of the district had become tied up in the fortunes of a handful of mines. The faint signs of dull times were growing less faint as 1885 passed. The King's output of $302,000 in 1885 was down sharply from the $507,000 produced in 1884. Then in March, 1886, 20 to 30 men were laid off at the Red Jacket Mine and several others were laid off at the King. These dismissals depressed "the business outlook," sent many men "scouring the adjacent hills in search of prospects on which to chloride," and forced others to seek "other climes, but those remaining here are not of the kind to sit contentedly until something 'turns up,'" as a correspondent explained.

The *Print* was baffled by the shutdown of the King. The paper's fears were allayed somewhat when the King quickly rehired 20 men. Besides, a large reserve of ore at the King would keep the Waterloo mill running full time; superintendent Dedrick Bahten even predicted that 15 stamps would have to be added to the Waterloo. ". . . . There seems to be a general impression among business men here that the liveliest times are yet in store for Calico . . . . "

Then, too, other mines were still active. The Kearsarge employed three men in April, 1886, the Burning Moscow and Jessie Tay six each, the Blackfoot 14, the Sue 18. These smaller mines gave teaming a considerable boost. The Blackfoot and Sue each employed two teams. The Calico Freighting Company of Daggett had 10 teams at work and was still two weeks behind in hauling out the unusual amount of low-grade ore waiting on the mine dumps.

The lessons of efficient milling were not lost on the Oro Grande Company. It began erecting a 60-stamp mill in March, 1887; it would cost $250,000. Thirty men were put to work grading the foundation. Next to the site was the 15-stamp mill. It served the Waterloo Mine, then employing 30 men. The two plants would process the massive reserves of ore on the dumps of the Waterloo and handle ore from the King, Burning Moscow, and other company-owned properties. The *Print* was elated, seeing the return of "the lively times of several years ago," for business was already "improving in all quarters of the camp." The school grew slightly, to 66 pupils in late May.

After all the mine shutdowns had been rationalized, after all the predictions of lively times had been made, the signs of decline were becoming more evident. The output of the King fell to $120,000 during 1886. As corporations continued to take over the chief mines, regular miners began to turn to chloriding or prospecting; others drifted away. The *Print* finally had to concede that 1886 had been the dullest in Calico's history. The layoffs had "caused a great depression in the business of the town, but still there were but few failures, and most of those parties engaged in business a year ago are yet conducting their enterprises. . . ." True, the number of miners had

increased since 1886, deputy assessor H.B. Stevens estimated in May, 1887, but only because the number of chloriders had offset the loss of regular miners.

Calico was full of such paradoxes, as the representative of the *Mining & Scientific Press* had learned several years earlier. A writer from the Ontario *Record* had mixed emotions. Though a three-foot cottonwood stood out as the only tree in town, Calico offered "numerous opportunities to get 'wet.' The town has an excellent public school, but various attempts to hold church services have failed; the mines and mills run on Sunday, and the Calico *Print*, an excellent exponent of the mining interests [,] is issued on that day. . . ." It was said that it would take a four-horse cart to carry away all the cards swept out of the saloons, but "on the whole, we think, he probably exaggerated a little. We should hardly recommend Calico as the best place in Southern California to bring up a family, but the condition of society is not at all what might be expected even from the facts .we have just stated," for despite the heavy drinking, "there is comparatively little drunkenness and any serious breach of the peace is rare. . . . "

. . .

"The average miner, as you see him by the uncertain flicker of his candle, looks a little rough, but no class of laboring men is better informed, reads more, or takes more pride in their intelligence and interest in public affairs. The days of poets and philosophers in the mining shafts are not past yet. The saloon and the gambling den are the miner's curse, but drunk or sober, flush or busted, you will usually find shrewd sense and keen wit beneath their rough [?] exterior."

Like the camp, the mines were a paradox. The writer for the Ontario paper was awe-struck by the immense workings of the Garfield Mine in June, 1887. ". . . . The first sensation is certainly one of coolness, coming in from an atmosphere over 100 in the shade. The distant rumble of ore cars, the faint flicker of the miners' candles, the click of the picks, and the uncanny appearance of the miners in the dim light, made a weird effect that will stamp itself indelibly on the memory of the visitor. We threaded passages, explored chambers, and went down shafts, until the writer could have been easily convinced that enough rock had been dug out of this one mine to make a second 'Old Baldy.' . . . . We saw ore that yields thousands of dollars to the ton, and a man could make a fortune in a few days could he have all he dug out."

Happily, chloriding, the salvation of many small miners, sustained many residents during these lean times. At the Veto Mine, chloriders were netting $6 to $10 a day. After the expiration of leases at the Sue, it was said that none of the 15 chloriders had been "making less than ordinary wages, the majority averaging three or four times that amount. . . ." At the Young Waterman, independent miners were paying out $250 a month in royalties--one-fifth their earnings--enough to enable the co-owner to take a trip to Europe. The success of chloriding was considered "an incentive to others to try their 'luck.'" On December, 1886, the *Print* would point out that often "ore is discovered in places where miners have walked over for months and years, and rich strikes made in most unexpected places. . . ."

Few in the camp were idle in early May, 1886. The miners were chloriding, working for others, or prospecting. The business community foresaw "unusual lively times within the next two or three months. . . ."

All this talk was wishful thinking. Although it was scarcely recognized then, the district was dividing into two communities, the chloriders and large mining corporations, one poor, the other rich. Several mills, such as the Barber, processed only "custom" ore--that is, material produced by

independent miners. The Waterloo, in contrast, would process only ores from the mines owned by the Oro Grande Company, such as the King.

Chloriding kept many employed, but it could be a chancy way to earn a living. Custom mills could charge up to $20 a ton. To process the massive low-grade ore that would not pay chloriders to mill, two leaching works operated at the foot of Main Street in late 1886. It was expected that leaching would "considerably reduce the cost of mining, and turn into bullion a vast quantity of ore that has accumulated on the numerous dumps during the past five years," the *Print* reported in early 1887, for already "a stimulating effect is beginning to be felt throughout the camp. . . ." In May, chloriders were "swelling the bullion output to a considerable degree. . . ."

As mining became more corporate, the processing of ore came to be consolidated at three mills. The *Pioneer Quartz Mill*, sold to the Silver Odessa Mining Company in 1883, was usually called *Hawley's* mill. When the Oro Grande Company bought the Oriental and Silver King mines in early 1884, the concern enlarged its mill at Daggett to 15 stamps. This plant became known as the *Waterloo* mill when the Oro Grande company was reorganized and renamed in early 1889. Near Calico, the *Garfield* mill, of 20 stamps, became known as the *King* when an English company bought the plant and several groups of mines.

These plants were modern and efficient. By early 1887, the revamped Oro Grande Mill was using hot water to force pulverized ore out of the batteries of stamps and into the pans, where salt, limestone, and mercury separated out the silver. Two thousand gallons of water were used to crush each of the 33 tons produced daily. At the Garfield mill, where the value of ore dropped from about 46 ounces of silver a ton in October, 1886, to 26 ounces in September, 1887, the plant's operators still managed to cut the cost of processing considerably, from $4.52 a ton to $3.10. It produced a hefty 417,215 ounces from the Garfield, Occidental, and other mines belonging to the J. S. Doe & Company of San Francisco.

Such descriptions, however, only masked signs of decline. Calico remained dull through much of the summer of 1887, "in some respects ever since the large force of men were discharged and the King mine closed dawn. The King mine was the principal support of the town. . . ."

Perhaps it was merely a coincidence, but one mine experienced a major robbery that year. After picking up the monthly payroll. $4,000 in coin, the superintendent of the Run Over Mine and Mill left the express office at Daggett. He was riding alone. As he neared Wall Street Canyon, a man came out of a gully, pulled out a gun, and took the money and his horse. It was too late in the day to organize a posse. The robber apparently became lost, and a small posse led by an Indian tracker found him at a distant well. The posse had a strange story to tell when they reached Calico. Miner John Ackerman, a posse member, contended that he shot and killed the robber in self-defense, the body was buried at the spot, and the money was missing. The listeners were skeptical, but Ackerman would never discuss his story again.

But there was a worse fiend than a bandit.

First, a fire destroyed the nearly completed Waterloo mill on August 14. The company laid off 19 miners, then quickly rehired them when it found that the boilers and other machinery could be salvaged. The Waterloo would build another mill. The decision to rebuild was "very encouraging to the town." Meanwhile, the mines were now said to be paying well, and the chloriders were often "making money fast."

Another fire hit Calico a few weeks later, in September. The blaze had started on the dry shingled roof of the Globe Restaurant. The fire at first seemed to be of little importance, but the water soon ran out and a gust of wind came up. All but two business buildings were turned to ashes in less than an hour. The losses were put at $100,000.

Though stunned, the citizens rebuilt at once. It was agreed that every third or fourth building would be made of adobe. The first adobe came from the dry lake. But the citizens soon wound up excavating basements, mixing the hard red clay of the townsite with water, and pouring the mixture into farms to make walls. Cut rock was also used to make the facades of several buildings. Business "of all kinds" was quickly resumed. The water system was also improved, a bucket brigade was organized, and barrels of water were strategically placed along Main Street.

But one important business remained a permanent casualty: the newspaper. The *Print* suspended publication right after the fire. The paper had been so important that the *Mining & Scientific Press* had to acknowledge to its readers that its coverage of the Mojave Desert would suffer, at least for a while. Overshiner moved to San Diego, where a year later he was publishing a triweekly newspaper. (During the next two decades, Overshiner would put out weekly newspapers throughout the back country of San Diego County, at Ramona, Julian, and Imperial.)

It was later contended that the fire had had a sobering effect on the town. The days of free-and-easy spending were over. The corporations, which controlled the best mines, sent their profits to stockholders far from Calico. Families fled; the school lost more than half its pupils, to 30 in mid-1888. The number of registered voters also slipped, though it remained a still-respectable 292.

As the chloriders continued to feel squeezed, the corporations advanced. The Oro Grande company started work on a seven-mile narrow-gauge railroad from Daggett to the Waterloo Mine's ore bins in March, 1888. The rebuilt mill and the railroad were completed later in the year. Two small locomotives would ease cars loaded with ore down the grade to Daggett and return with supplies and timbers. The completion of the line cut the cost of hauling from $2.50 a ton (by wagon) to as little as seven cents a ton.

The Waterloo's operations were awesome. One state geologist considered the mechanisms for automatically feeding the pans salt, limestone, and mercury "seemingly perfect." From a rough building brightened by 150 electric lights, another writer for the Ontario *Record* observed (November, 1888), came "a low rumble, like the distant thunder of artillery; and in the presence of such weird sights and sounds, made doubly intense by the clear air and oppressive silence of the desert, one might imagine himself in the presence of one of Vulcan's forges. All this, however, is 'the peaceful hum of industry;' . . ." A 300-horsepower, coal-burning steam engine, which turned a 20-foot-diameter drive wheel and a dynamo, made the writer feel "abashed in the presence of so much power that seems almost possessed of human reason." In the room containing the 60 thundering stamps, the "noise is terrific and the building groans and trembles with the jars. . . ." In fact, "one would no sooner expect to see silver come out of these pans of whirly muddy water than to pick oranges from the street corner signs in a busted boom town. It is 'pay dirt,' however and. . . the mill gathers up quite a little mountain of silver in the course of a year."

The train ride from the mill to the mines was a thrilling experience. The train consisted of four cars, "bins we should call them, each holding nine tons of ore. Perched in one of these cars, with the water barrels splashing in front of us, we were soon whirled over the desert to the few unpretentious shanties that mark the greatest silver mine on the coast. . . ."

Perhaps not surprisingly, the corporate influence on Calico's mining Industry continued to grow. The Oro Grande Company was reorganized as the Waterloo Mining Company in February, 1889. The concern owned the Waterloo mines and mill and other properties, notably the Silver King Mine and its mill. The Waterloo Company built a branch of the railroad past the town to the ore bins at the Silver King Mine in 1889. Meanwhile, several of the Doe properties, especially the Odessa, Oriental, and Occidental-Garfield mines, were sold. The new concern was confusingly named the Silver King Mine Company, Ltd., of London. The Garfield mill, 20 stamps, was renamed the King mill.

The activities of these and other companies led to a modest revival. Families were returning; the school gain students, its enrollment rising to 40. The census taker counted 431 men, women, and children in the area in mid-1890, of whom an estimated 300 lived in town. The business district contained five general and variety stores, four saloons, three lodging houses, and three stables. Telephone and telegraph service and twice-a-day stage service closely linked Calico to Daggett.

Daggett

DAGGETT, IT WAS REPORTED with some exaggeration in late 1888, comprised several houses, a store, and 20 saloons lining a sandy street, “a condition of things not calculated to make the place exactly a prohibition stronghold.” Yet through Daggett passed $100,000 in bullion from Calico every month.

Daggett's large business district made it an outfitting point for prospectors roaming the Mojave Desert and Death Valley. In 1890, when 277 lived in the voting precinct, the businesses included a “splendid” freight and passenger depot, large eating house, post office, express office, school, churches, and several general stores.

Calico: Rally & Collapse

POLITICS, rather than technology, provided the next impetus for growth. As a sop to the farmers and silver-mine owners of the West, Republicans in Congress cynically pushed through the Sherman Silver Purchase Act in July, 1890. By requiring the U.S. Treasury to buy a limited amount of silver every month, the act gave a psychological boost to the industry. The price of silver rose from 97 cents an ounce to $1.05. The Waterloo and Silver King corporations reopened their low-grade deposits. The King Mine was shipping out 100 tons of ore a day by September, 1891, the Waterloo 50 tons. Three months later, the Silver King company enlarged its mill (the old Garfield) from 20 to 30 stamps.

But political-based prosperity would be short lived. The price of silver soon began to dip, to 88 cents in 1892. Considering it “foolhardy to exhaust the great ore bodies when the profit ... was merely nominal,” the Waterloo company closed its mine and mill in March, 1892; 120 to 150 men were idled.

But not everyone was about to give up. A few chloriders remained at work (1892), the Silver King mill continued to operate night and day, and the school remained full of young scholars.

In the long run, though, continuing to mine silver ore would be like spitting into the wind. Europe was already suffering from a depression. Fearing the spread of monetary problems, the

Republicans forced the repeal of the Sherman act. Months later, in mid-1893, panic swept the banking industry of the country. Railroad construction halted. The prices of commodities, from wheat to pig iron, slipped. Around Calico, even the chloriders vanished. Meanwhile, after a protracted suit, the Waterloo and King corporations merged in mid-1894.

By all logic, Calico should have died then. But capital and labor kept up their courage. In spite of the heat of July and the low price of silver in 1895--65 cents--the King (Garfield) mill continued to reduce 100 tons of ore a day from its groups of mines; the company's mines were "looking better than they have for several years. . . ." The stage line was still making two round trips a day, and the school had just finished the term with 36 children enrolled. Though Calico "boasts but two saloons," it still encompassed a barber, stationery store, fruit store, druggist-doctor, shoemaker, lodging house, machine shop, blacksmith shop, and a Chinese restaurant. Postmaster H.R. Gregory had lived in Calico since the pioneer days. Undaunted by the hard times, Thanksgiving was celebrated with a grand ball in the town hall, a "fine turkey supper," and a dance until dawn.

When the King company's mines and mills were shut down in 1896, the town still clung to life. A handful of businesses served an estimated 100 residents. The post office finally closed in November, 1898. Finally, the school dwindled to four pupils and closed. As the Redland's *Citrograph* noted, Calico "long ago fell into decay, and has now passed entirely out of existence. It is no longer known even as a school district, owing to a lack of school census children. The library and other books and records have been returned to the office of the County Superintendent of Schools."

Though the town was dead, the district experienced a last-minute revival. Two veterans of the early boom, D.O. Connell and Marcus Pluth, leased the Oriental Mill and Waterloo Mine in April, 1899, and shipped out ore on the narrow-gauge. Their operation lasted a few years. Then the railroad was torn up; Connell moved many of Calico's frame structures to Daggett and the new town of Yermo.

Calico now passed into the realm of legend. Old-timers who had missed the boom could recall peak populations of 2,000, 2,500, even 4,000. The true number never really mattered.

Within a few years, visitors would begin visiting the ruins, snap pictures with their boxv Kodaks, and have picnic lunches beside adobe walls. Walking up Main Street in 1908, geologist W.H. Storms recalled the camp's heyday: "... Night and day the sound of music and mirth could be heard. The cheerful call of the hurdy-qurdy manager mingling with the rattle of the Ivory chips of the gambling tables. ..."

Storms could hardly believe the ruin wrought in only a decade of desertion. A dilapidated piano stood in a corner of the old dance hall. "...The sun streamed into the dirty room through great holes in the roof. The lining and gaudy wall paper were hanging in folds like tapestry long neglected. In the storeroom of the leading store, large account books revealed "many old familiar names." Jake King had bought a plug of tobacco for 50 cents; Charlie Beckwith had bought a silk shirt for $4. Several safes lay outside the express office. The dozen houses lining the silent main street "are in possession of the bats and owls.""

SOURCES: Recollections of the discoveries appear in the *Pioneer Cabin News* (San Bernardino Society of Pioneers, bulletin), 1968, and in L. Burr Belden's "Mechams Tell of Calico Silver Camp Discovery," San Bernardino *Sun-Telegram*, Oct. 26, 1952, p, 22. Though indifferently edited, the San Bernardino *Valley Index* carried informative, often humorous accounts of the discovery and

early boom, 1881-1882. In the few surviving issues of the Calico *Print*, the writers paid considerable attention to social and cultural life. Mining and milling were covered exhaustively in the *Mining & Scientific Press*, 1882-1917, especially through late 1887, when the *Print* suspended. The decline was covered, somewhat sporadically, by the Redlands *Citrograph* and the *Saturday Review* (San Bernardino) and by the California State Mining Bureau, *Reports* 8 (1888), 9 (1890), 11 (1892), 12 (1894), and 13 (1896).

The more one gets to know Calico, the more one appreciates the boyhood reminiscences of Herman F. Mellen, apparently written about 1940: Historical Society of Southern California, Quarterly, June, 1952 (v. 34), pp. 107-124; September, pp, 243-260; and December, pp, 347-367.

Several visitors and residents wrote vivid accounts: Mrs. D.M. Harwood, "Interesting Letter," June 9, 1882, and "Calico District," June 16, 1882, both in the Santa Ana *Standard*; F.W.S. (Frederick W. Smith), "Calico District," *Mining & Scientific Press*, March 14, 1885, pp, 173 and 180; "On the Desert," June 15, 1887, "A Day in the Mines," June 24, 1887, and "Through the Waterloo Mill and Mine," November 21, 1888, all in the Ontario *Record*; and W.H. Storms, "A Lonesome Town," American (Los Angeles) *Mining Review*, November 14, 1908, pp, 10-11.

Though it contains a few errors, the best overall account of mining remains an extensive, abundantly illustrated series by a state geologist: F.H. Weber, Jr., "Silver Mining in Old Calico," May, 1966 (v. 19), pp, 71-80; January, 1967 (v. 20), pp. 3-8; and a follow-up piece, "Silver Deposits of the Calico District," February, 1967 (v. 20), pp, 11-15, all in Mineral Information Service (California Division of Mines and Geology). For the series, Weber also compiled a comprehensive, unpublished bibliography for the division: "Bibliography of the Calico silver district and vicinity, San Bernardino County, California" (April, 1966).

Also of interest are several features written by L. Burr Belden: "Calico Booms as County's Biggest Mining Center," Nov. 2, 1952, p, 24, and "Lucy Lane Has Vivid Memories of Early Calico," Oct. 8, 1961, p. D-6, both in the San Bernardino *Sun-Telegram*.

PROVIDENCE

IVANPAH FATHERED OTHER BOOMS. Along the steep slopes of the Providence Mountains, south of the Clark district, parties of prospectors from Ivanpah found extremely rich silver ore during the spring of 1880. Some of the rock assayed up to $5,000 a ton.

The richest claim turned out to be the Bonanza King. This property passed into the hands of J. B. Osborne, H.L. Drew, J.D. Boyer, and Charley Hassen, all veteran mining men who would figure prominently in the county's mining history.

Though a rich vein was found in early 1882, the owners of the Bonanza King sold their interests to the Bonanza King Consolidated Mining & Milling Company of New York, which pushed development. To serve the 100 to 150 men developing the mine round the clock, a post office named Providence was established that June. And while Southern Pacific crews were building a track across the desert, teams were hauling in a hoisting plant and machinery for a 10-stamp mill.

By early 1883, Providence had emerged as a rough-and-tumble camp of 300 residents. Many houses were made of locally quarried white rock [volcanic tuff]. Besides the post office and several mining-company offices, the business district embraced two general stores, two hotels with livery stables, a saloon, and a contractor, blacksmith-wagonmaker, deputy sheriff, and U.S. mineral surveyor. Providence had also been declared a voting precinct.

Meanwhile, the Bonanza King was becoming an investor's dream. The mill, which started up on January 1, 1883, turned out $61,744 during its first month alone. A few ·months later, the plant was turning out 2,000 ounces of bullion a day! Ore taken from shallow shafts yielded $573,376 in bullion by the end of 1883. Bonanza King stock was soon placed on the New York mining exchange, and regular dividends were being paid. When the output reached nearly $1 million in 18 months, superintendent Thomas Ewing explained that “the Bonanza King is better opened up, better worked, and we have obtained better results from the ore than any other mine in this great mineral desert. ...” In fact, all the district's mines continued to flourish.

Frederick W. Smith, a representative of San Francisco's *Mining & Scientific Press*, was amazed from the moment he stepped off the train at Fenner station in early 1885. He took Young's stage and express--the fare was $4 up and $3 down--later joking that a canteen of water and a lunch were needed to endure the dreary, 24-mile trip across the desert. Worse, driver “Font” Williams enjoyed terrorizing tenderfeet with hair-raising tales of the frontier.

And what a golden harvest the Bonanza King was reaping! Through an 800foot main shaft came ore containing $100 a ton in gold and silver. Grinding away at Crow Town, a mile and a half from the mine, was a highly efficient 10-stamp mill. About 100 men worked at the mine and mill. But the $20,000 spent on wages and supplies was offset by the mill's monthly bullion output of $35,000 to $50,000. By then, the mill had produced $1,500,000 in bullion.

But the camp reminded Smith of a dull company town. Besides the post office, the businesses in early 1885 totaled only two general stores and three saloons. There were no saloons, as Smith found: “...A mattress on the floor or on a store counter is first-class accommodations.” Wood was plentiful but cost $8 a cord; water taken from the company's well cost two to five cents a gallon. Meanwhile, an attempt to organize a school district failed--not enough children.

Working conditions, too, were nothing to brag about. Though paid promptly and in coin, the men received only $3.50 a day; board cost $8 a week. It was little wonder that the workers were considered hard working and sober: the Bonanza King would fire any man found drunk. One worker later accused the foreman and a shift boss of being "heartless task masters" who forced employees to work more "than their health and strength will permit."

All this time, the price of silver continued to slip. After paying dividends through early 1885, the company suspended operations in March.

When the mine reopened a week later, the 15 men just hired had to accept only $3 a day, a cut made "with reluctance," in the words of a correspondent, "owing to the very low price of bullion. ... It is quite evident that it is their intention to push the working of the mines more than ever before. ... You may confidently expect to see a larger output of bullion than ever before. ..."

The retrenchment worked, at least for a while. Advertising in the Calico *Print*, the Bonanza King company hired men as fast as they arrived: 40 men at first to work in the mine, 35 more when the mill started up a few months later. While the mill was turning out an average of $60,000 in bullion a month, the *Print* envisioned a "large, substantial, and flourishing camp."

But another cloud came to darken this silver lining. Just after turning out 26 bars of bullion, the "beautiful and thoroughly equipped" mill burned on July 31, "not a vestige of the structure and its contents escaping destruction." The company laid most of its workers, and the town's business was expected to suffer considerably. Though company officials started to rebuild the mill, even clearing away the debris, the Bonanza King remained closed; only a few small mines kept Providence from dying.

Finally, assured that the coinage of silver would continue, the company reopened the mine in early 1886. Assays showing exceptionally rich ore kept 20 to 25 men at work despite the July heat. At the nearby Kerr and Patton property, Godfrey Bahten, a widely traveled mining man, built a five-stamp mill. When the plant started up in January, 1887, "from the first stroke of the engine it was clear that everything was in place. . . ." The rebuilt mill for the Bonanza King, however, remained a dream, for it was contended that the "owners are all rich men and they are likely waiting until silver becomes a fixed standard."

That time never came. Calico and other silver camps had eclipsed Providence; prices continued to fall. The number of registered voters plummeted from 91 to 13 in only two years. Though Juan Domingo was running a stage to Fenner three times a week, all that remained in 1887 were a few residents and businesses. The Kerr and Patton property operated at least until 1890 and reportedly paid good dividends. The passage in 1890 of the Sherman Silver Purchase Act, intended to give token relief to mine owners and impoverished farmers, at once pushed silver to $1.05 an ounce. But the price again slipped to its earlier levels. Providence post office closed in May, 1892.

Providence's mines experienced several revivals during the next several decades. The Trojan Mining Company built a gasoline-powered 10-stamp mill and worked the mine from 1906 through September, 1907.

Aroused by this revival, a Massachusetts firm rebuilt the mill and put the mine into production in 1915. Thirty men were soon running the operation round the clock. The presence of five families gave the camp "a more charming appearance." Utilities were provided by an electric-

light plant and a water line. Two trucks, meanwhile, made daily trips to Fenner station. The operation was equipped with gasoline engines and the most modern hoisting and milling equipment. Within a few years, the company had reopened shafts, to 800 feet, and was taking out very rich ore. But the Armistice (1918) soon brought a decline in the price of silver, to $1.01 an ounce in 1920. The company suspended work in July. This was Providence's last hurrah.

SOURCES: The best overview can be found in Vredenburgh and others, *Desert Fever* (already cited). The Colton *Semi-Tropic* and the San Bernardino *Times* and the *Index* reported on the discoveries and pioneer years, 1880-1882. The *Mining & Scientific Press*, usually quoting the Calico *Print*, covered the operations in detail, from 1882 through late 1887, when the *Print* folded. The handful of surviving issues of the *Print* for 1885 describe working conditions.

Boom-time photos of Providence are lacking. Fortunately, the camp's ruins remained well preserved for years, as shown in Aaron Dudley and Alvin Fickewirth, “Ghost Town of the Mojave,” *Westways*, November, 1941 (v. 33), pp. 22-23.

MESCAL

IVANPAH WAS NOT THE ONLY SETTLEMENT in the Clark district. Six miles south of Ivanpah was the Cambria Mine, variously known as the Meskal or Mollusk. The Cambria was discovered about 1879 and was producing ore early the next year.

The site itself hardly looked promising. One visitor later described the approach to the mine: "... The great mountains on either hand were bare in their dry desolation; ... Occasionally in small gulches, or depressions, orchards of yucca grew like stunted trees. ..." The operation remained nearly lifeless until William A. McFarlane, a pioneer of Ivanpah, bought the property in 1882.

The Mescal Mine came alive in early 1885, when McFarlane and his partner, Simes A. Barrett, had a force of men at work. Waiting to be milled was a large lot of ore worth $100 a ton in silver and gold. Meanwhile, during a shutdown at Providence, several miners and woodcutters trickled in to Mescal.

Glad to see progress, the Calico *Print* reported in June that "Mescal mining camp has commenced to boom. ..." With seven or eight men working at the mine, McFarlane and Barrett started up the old Ivanpah Consolidated mill. About 20 pack animals owned by John (Juan) Domingo, a Providence teamster, made daily trips carrying ore. A few weeks later, in July, Wells, Fargo & Company carried away the first bullion, two bars worth more than $2,000. "... Luck be with them, they deserve it. ..."

Mescal entered its most productive period when McFarlane and Barrett leased out, then sold, the Cambria to a company of "shrewd" Los Angeles businessmen in January, 1886. The company soon had 10 men at work and drove a second tunnel; a 350-yard ore-car track led to a road below. Under Barrett's supervision, the company graded a site for a five-stamp mill near Mescal Spring, which produced a "splendid supply of water." Domingo's big teams laboriously hauled in timbers and lumber. The machinery, made in Los Angeles, was meant "to show San Francisco that they can erect as good a mill as any other place on the coast. ..." Supervised by McFarlane, the mill started up in early December and turned out four bars of bullion weighing 5,000 ounces; the yield showed that McFarlane "keeps up his reputation as a first-class millman."

Mescal had become a compact, well-run camp by late 1886. A correspondent for the *Print* observed: "... The mill is a thoroughly substantial one in all its parts. They have a fine assay office, overseen by the painstaking assayer, Mr. L.A. Blackburn. The offices are comfortable, and the boarding-house, lodging-house, etc., show that they look to the comfort of their men. ..." A handful of men, several with families, lived in well-built adobes covered with good shingle roofs. "Good" miners received $3.50 a day; "excellent" board cost $8 a week. As one visitor was later told, "wages were good, work steady and everybody was happy. . . ."

Prosperity continued to smile upon Mescal for several years. All through 1886, superintendent L.A. Carr uncovered rich ore. The *Print* remarked that the company could "congratulate itself on the way the mine is opening up. . . ." The mill was producing so much bullion--15,000 ounces in January, 1887--that Carr added five stamps a few months later. A post office named Nantan, a word apparently of Indian origin, was established in March, 1887. Meanwhile, Domingo was running a weekly stage from Fenner, and a store was in operation.

Mescal apparently-peaked in 1887. The price of silver was declining, from an already-low 97 cents an ounce to 94 cents in 1889. From the mine's two 300-foot tunnels, the mill was processing ore yielding only $20 a ton. Only 12 persons lived there in 1890; the post office closed that December. According to McFarlane's son, the Mescal had by then produced $250,000 in gold and silver.

. . .

The effect of falling silver prices produced what may have been one of the most bizarre incidents in the history of mining. Just as a long depression began sweeping the nation in 1893, a silver dollar contained only 40 cents worth of silver. According to a story published in the Los Angeles *Times* in 1895, two Denver businessmen, known only as Spencer and Davis, sought to recoup the fortunes ' they had lost in the depression. Though discrepancies suggest that the story may be a hoax, at least in part, Spencer and Davis supposedly bought the Mescal. They built a smelter, brought in a hand-picked crew, and installed special machinery at the bottom of a deep shaft.

The machinery had only one purpose: counterfeiting, then an unusually common crime. Spencer and Davis soon began taking out each day 20 tons of ore containing a total of 800 ounces of silver, enough to mint 1,000 phony dollars. Tightly packed into hollow bars of silver, the coins would be shipped out to cities and fenced.

Although the silver dollars turned out to be excellent imitations, their discovery in a hollow silver bar led John E. Bennett, a Secret Service agent, on a painstaking hunt for clues. Bennett finally found his prey in the summer of 1893 and enlisted the aid of a detachment of soldiers. After leaving the railroad, Bennett and a guide finally “turned around a small cone-like hill and there before us, close upon us, was the Mescal camp. It lay on a ridge which made out from the mountain into the valley. ... Above on the bold side of the high roaring mountain was the mine, its grey dump marking with a light splotch the dark slope. ...” Buckets suspended on an aerial tramway carried ore from the mine to the smelter. Running down a steep slope, a pipe from the mine fed a pool of delicious water. Though visitors were unwelcome, Bennett contrived to have himself stranded in the camp.

One morning in August, Bennett identified himself as a Secret Service agent and order Spencer and his crew to surrender. Spencer merely sneered. “Pooh, you talk like a fool. I’ll have you to know, sir, that it will take a better man than you to arrest a whole camp and shut down a mine on such a fool charge as that. ...”

Spencer had already prepared for such an emergency. Just as Bennett's men were about to charge over the hill, Spencer blew a whistle, and the mountain inside began to rumble. An explosion blew Bennett and several others off their feet; boulders went flying. One man was fatally injured. Under the rubble, too deep to dig out, were the dies, roller, and counterfeiting press. Taken to Los Angeles for trial, Spencer, Davis, and their smelterman were acquitted for lack of evidence. But they did not return to their old ways.

. . .

The camp itself finally died of neglect. A cattleman continued to use the boardinghouse. But heavy snow collapsed the roof, and the shakes were replaced with sheet iron in 1911. The mill was scrapped in 1914. The mill machinery--the building had already been torn down--was scrapped in 1914. The assay office remained in fair condition until a story in a treasure magazine reported--

erroneously-- that gold coins had been hidden in the adobe walls. Treasure hunters-vandals, really--soon finished off the building. Eugene McFarlane, the owner of the property, understandably does not want visitors to the site.

SOURCES: Quoting the Calico *Print*, the *Mining & Scientific Press* covered the Mescal's development in detail, 1885-1887. D.F. Hewett, in his work on the Ivanpah Quadrangle (cited earlier), described the mine. John E. Bennett related the fascinating story of the counterfeiting ring in "The Mint At the Mescal Mine," Los Angeles *Times*, Dec. 8, 1895, p. 14. Discrepancies suggest that the story might be a hoax. A check of trials held at the United States District Court in Los Angeles for that period reveal many counterfeiting cases but no defendants named Spencer or Davis. The names may very well have been changed since the case supposedly resulted in acquittals. The Los Angeles city directory for 1895, meanwhile, lists a John E. Bennett as employed by the *Associated Press*.

BAGDAD and the ORANGE BLOSSOM MINE

THE CONSTRUCTION OF THE SANTA FÉ SYSTEM required a lengthy supply line. Trains routinely needed to take on water and coal, change and feed crews, and put on extra locomotives. Bagdad, a siding built between Needles and Daggett about 1883, proved to be an ideal site for a stop. It lay at the foot of a steep grade up Ash Hill.

A more forbidding locale could scarcely be found. Ancient cinder cones and lava flows marked a volcanic landscape. Bagdad was in the driest part of the Mojave Desert, the rainfall averaging little more than two inches a year. Temperatures could reach 119 degrees F. (Ironically, abundant water lay below the site.)

Information about Bagdad is very fragmentary. A depot-telegraph office, coal bins, water tower, and perhaps a restaurant may have existed as early as 1888. A post office was established in May, 1889. About 40 to 50 persons lived at the station during its early years, most of them railroad employees, such as engineers and conductors; a few men had families. The tiny business district in 1892 embraced a general store, a railroad eating house, and the depot, which probably housed the post office, the telegraph office, and a Wells, Fargo & Company agency. The population doubled during the next few years, to an estimated 80 or more. A traveler from San Bernardino came across a less-than genteel scene in January, 1896: “At Bagdad is a freight car rigged with a double roof. In it the engineer lives. His sweet-faced little daughter stands in the door, and his dog lies on the door-step. No trees, no shade;--coal bunker, water train--a Mexican village of a hundred inhabitants.” By 1898, the town also contained a stable and a Harvey House, a restaurant-hotel serving mostly railroad crews, though a room or two would be kept vacant for mining men and other travelers.

During these early years, the lack of water remained a serious problem. The railroad drilled a deep well in 1902, reaching water at only 150 feet. But the water turned out to be too mineralized for use by the community or railroad, and the well was soon abandoned. All water had to be hauled in daily in tank cars--16 cars a day in 1919, or 168,000 gallons. The water was run into a cistern and then pumped into an elevated water tank. Locomotives had to take on plenty of water and coal because of the steep westward grade.

Still, the residents managed to adapt to their environment. One family would sleep in wet sheets on summer nights and even managed to raise a lush vegetable garden. A stately row of palms and athel trees--the latter a gift from a visitor appalled by the bleakness--were also planted.

Meanwhile, during the early 20th century, mining booms built up the stations between Needles and Daggett. From Amboy and Daggett, roads led south into the Dale district. Post offices were established at Danby and Ludlow; school districts were created at Bagdad (1904), Ludlow, and Amboy.

Of especial importance to the growth of Bagdad was the development of the Orange Blossom group of claims. The claims were discovered by an Indian in the Bristol Mountains, 10 miles north of Bagdad. To develop the property, John Denair, a division superintendent of the Santa Fé and the founder of a town near Modesto, organized a company and set out on a vigorous stock-selling campaign. Work at the Orange Blossom speeded up in 1907, when the mine shipped its first ore.

The main activity centered on the adjacent claim, the Orange Blossom Extension. In mid-1908, the company built an eight-stamp mill and a camp made of pine and redwood buildings, well painted, furnished with running water, lighted with electricity. The settlement comprised an assay laboratory, well-furnished office, boardinghouse, rooming house, two snug cottages, a stable, barn, and corral. Water was piped several miles from a Budweiser Spring. Below the mine and mill, "just far enough so that the music of the stamps will be subdued." the Orange Blossom company laid out a town named Hodgman in early 1909.

Denair also built up much of the region along the railroad. At Amboy, Denair's company erected a frame lodging house for visitors and a huge warehouse. An auto made daily trips to the mine. At Ludlow, Denair built a two- story concrete store (still standing in late 1984). At Bagdad, he built offices, corrals, a large store, powder magazine, cottage, bunkhouse, power plant, even a chicken coop. The Santa Fé built a spur to handle supplies for the power plant and store. A stage line and power line connected the Orange Blossom. Two other mining companies owned corrals. The railroad maintained the depot, blacksmith shop, toolhouses, section houses, pumping plants, even an ice plant. Rounding out the town were the school, post office, Harvey House (with its own hog pen), and probably a store. (A few years later, the county established branch libraries in the school and town.)

But at the site of Hodgman, plans for cottages, a large hotel and general store, post office, and other buildings never materialized. The mine and then the mill shut down in early 1909, and the Orange Blossom company went bankrupt.

The suspension of work at the Orange Blossom did not "come as a surprise to mining men who had been kept advised of developments," the Los Angeles *Mining Review* commented. "It is merely another case where expensive milling facilities have been provided before the extent and exact value of ore bodies had been ascertained. The work of exploration had been allowed to run behind in a marked degree and, as early as six months ago, it was predicted that the management would sooner or later be compelled to acknowledge its mistake. . . . . " Still, the property may have "real merit," and more intelligent mining might uncover "large bodies of pay ore."

The collapse of the Orange Blossom boom probably signaled the end of Bagdad's heyday. Only 80 persons lived there in 1910. True, travelers could still get water, gasoline, meals, and supplies at a store in 1917, but Ludlow, only 20 miles west, had developed a large commercial district. In the meantime, Route 66, at first a dirt track, was being built through Bagdad from Chicago. A fire burned much of Bagdad in 1918. Then the Santa Fé double tracked its line and reduced the grade up Ash Hill; the reduced grade made helper locomotives unnecessary. The post office finally closed in April, 1923, just as the railroad company was completing the realignment. Happily, Route 66 was paved in the 1920's, and a few businesses grew up along the highway. The school maintained a healthy enrollment until 1937, when it and the library branches were closed. Travelers could still find accommodations in 1939, but only about 20 residents remained, in contrast to 150 at Ludlow and nearly 100 at Amboy.

During World War II, the Marine Corps established an enormous base south of the railroad and closed the road to Dale and Twentynine Palms; in turn, the road leading south from Amboy was paved.

Bagdad continued to shrink until it contained a service station, cafe, and tourist camp along Route 66 and the depot, pumping plant, and section house along the railroad. Then the Santa Fé converted to Diesel locomotives and motorized its maintenance crews. The section house was

closed; the hotel and water tank were torn down. In 1960, the journalist L. Burr Belden could find only boarded-up railroad structures, the pumping plant, and the stately row of palms standing near the foundations of the depot and hotel.

SOURCES: The story of Bagdad has been pieced together from business directories, David Thompson's water-supply paper on the Mojave Desert (cited earlier), a travel article in the Redlands *Citrograph* in 1896, David Myrick's Railroads of Nevada and Eastern California (already cited), and articles in the Los Angeles (American) *Mining Review* and Patricia Keeling, Once Upon a Desert (cited earlier). The only comprehensive account of Bagdad's history is L. Burr Belden, “Bustling Rails, Mine Center of Bagdad Fading,” San Bernardino Sun-Telegram, April 3, 1960, p. B-12.

VANDERBILT

THE ERA OF SILVER MINING was fading. All over the Mojave--at Calico, Mescal, Providence--the old silver camps were dying.

Gold was the new metal of choice. In January, 1891, a Paiute Indian named Robert Black struck a promising mineral deposit in the New York Mountains, about 40 miles north of Gaffs siding, on the Santa Fé Railway . An assay made at Providence showed it to be rich in gold. To protect his interests, Black brought in rancher M.M. Beatty (namesake of the town near Death Valley) to file a claim.

The strike could not long remain a secret. Two mining men from Providence, Richard C. Hall and Samuel King, rushed in to file on several promising veins, which became the Gold Bronze Mine.

Serious prospecting got under way after two other Providence miners, Joseph P. Taggart and James H. Patton, joined them in June. The four men sank several shafts and took out several tons of ore rich in gold and silver. A camp sprang up at Vanderbilt Spring, in a cove-like gully in the side of a hill. Within a short walk were copious springs and abundant scrubby trees, piñon and nut pine, "so there will be no room for the customary howl. ..." Though snow falls whenever the winters are harsh, the district, lying at about 4,500 feet, tends to escape the brunt of the summer heat.

Though King died, Hall, Taggart, and Patton pushed ahead at their Gold Bronze claim during the next two years. The entire desert region, in fact, was attracting attention by 1892. About 40 miles north of Vanderbilt, Samuel S. Godbe was opening up lead-zinc-silver deposits in the old Yellow Pine district. Just southwest of Vanderbilt, the Sagamore Mine, an old lead-zinc-silver-copper property, was awaiting development. Hoping to reap the wealth of the rising districts, Isaac

C. Blake, a Denver mining magnate, built a smelter at Needles. In the meantime, Allan G. Campbell, a Salt Lake City investor, joined Beatty in developing the Boomerang property, even sinking a shaft 100 feet. And two Comstock lords, John L. Mackay and J.L. Flood, with partner William S. Lyle as their front man, were studying nearby properties. A strike made by Taggart that fall finally touched off a rush. When young Frank Williams arrived from Kansas in December, Vanderbilt "was most interesting and I spent the afternoon amid scenes and conditions of life altogether new to me. . . ." The camp consisted of perhaps 300 men served by a store, boardinghouse, and several saloons, probably all housed in tents. Though Williams saw some drunkenness, "I saw nobody armed and all were well disposed and sociable. . . ."

Blake, the Denver investor, turned this small rush into a boom. Planning to develop the Sagamore, Blake in December began building the Nevada Southern Railway from Goffs. Joining him was Warren G. Purdy, a Chicago railroad official, though Godbe may have promised Blake shipments of ore from his mines in the Yellow Pine district.

Vanderbilt mushroomed. In January, 1893, it contained 50 tents and "fully" 150 residents. Two stores supplied the "necessities of life," and a saloon dispensed "the luxuries." The other businesses included three restaurants, a lodging house, a blacksmith shop, and a hay-and-feed stable. A waterworks was planned (but never built). A stage brought gold-seekers three times a week from Goffs, 36 miles. (Goffs was renamed Blake in 1894.) One correspondent predicted that

Vanderbilt would "soon be one of the liveliest and most prosperous towns in southern California. . . ." A post office was established in February.

Blake "fairly glutted the most sanguine with his promises." Yet his construction crews made little progress even though the route crossed only a broad, gently sloping plain. Then, too, all water had to be hauled from Needles. Meanwhile, a sour economy was drying up capital for railroad construction. By the end of January (1893), 60 teams and 100 men had graded only 12 miles north of Goffs. A town was laid out at the end-of-track and named after Leroy Blackburn, a prominent rancher.

But a month later, the grade extended 26 miles, to a point soon named Purdy. Jubilant "over the prospects of having a cheap method of transportation," many residents were predicting a boom. When the rails finally reached Blackburn, a post office was established at a camp farther along the route in March. It was named Manvel, after Allen Manvel, the late president of the Santa Fé Railway. The original Manvel was probably a construction camp at the foot of the New York Mountains. (Summit construction camp was established a few miles up the grade; this would be the later site of Manvel.)

As spring arrived, the Nevada Southern was bringing in 10 to 15 persons a day; 150 men were working at Vanderbilt. The Needles *Eye* called the mines the "most promising and lively new gold-mining district" seen in six or seven years.

Other observers were not so sure. The Pioche (Nevada) *Record* warned that the camp "is said to be badly overblown." The native nut pine and water were said to be depleted (probably an exaggeration). Lumber cost $90 a thousand board-feet. Only 25 men at most had jobs at Vanderbilt in early 1893; the Sagamore Mine, just outside the district, employed 80 men.

Although the population remained steady, at about 300, Vanderbilt that spring became a "bustling and lively camp," where every man "seems to be on the go, and that this is his last chance to make a strike. . . ." Virgil Earp, a brother of Wyatt Earp, began building a saloon; it would remain the camp's only two-story building. "Genial" William McFarlane, a pioneer of Ivanpah and Mescal, sold general merchandise, miners' supplies, and provisions at his Vanderbilt Store, where he also ran the post office. Mrs. Charlie Smithson kept the Vanderbilt House, and her husband supplied "the choicest beef" from a nearby ranch. A bed cost 50 cents a night; board cost $7 a week. By then, the business district embraced two general stores, the post office, three saloons, a lodging house, and a lumberyard-- all but one housed in tents.

Then a carload of lumber arrived; railroad crews were not far behind. Hope seemed infectious. The former owner of a Needles bakery announced plans to open a chophouse in Vanderbilt, giving his patrons "the best in the market."

The Los Angeles *Herald* foresaw the rise of "an exceedingly lively mining town. In fact, it is no misnomer to call it a city, at least, it won't be in the near future if the current accounts are to be trusted." The *Eye* gushed that the "desert country will some day open wide the eyes of people who now scoff at the idea of making it anything but the habitation of the lizard and the horned toad."

The air fairly tingled with excitement. On July 4, for example, the denizens of the desert flocked to Blackburn's ranch; they came from all points--the Sagamore Mine, Vanderbilt, even the railroad camp of Purdy. After the Declaration of Independence was read, Dr. E.A. Tuttle "delivered

a stirring address," which was followed by a grand barbecue, horse racing and other sports, a big dance, "and the usual orgy of drunkenness," as Frank Williams recalled.

They would soon have more to celebrate. Regular rail service to Manvel apparently began in August. Manvel post office was moved to Summit, as did the business houses of Purdy. According to the Nevada Southern's first schedule, a train would leave Blake (Goffs) daily at 7:30 a.m. and arrive at Manvel at 9:45. The train would leave Manvel at 4 p.m. and arrive at Blake at 6:15. From Manvel, the Pioneer Stage line would carry passengers the last five miles to Vanderbilt for $2. An estimated 14 children now lived in camp; their parents were "anxious to have a school established." About then, W.A. Nash, the first justice of the peace, established a newspaper, the *Nugget*, but it lasted only two or three issues. A few weeks later, the autumn air began to buzz with the talk of politics. During the elections, Democratic candidates were pleasantly surprised to find not the 60 or 70 registered voters but 149; 30 men were expected to register.

Vanderbilt quieted down somewhat in December. But Williams still found it "aglow" with the expectation that two mills would be built. Indeed, ten-stamp mills started up at the Gold Bronze and Boomerang mines in March, 1894; the *Eye* rejoiced that "Vanderbilt is booming and those who maintained faith in the camp and stuck to it when it was decried are reaping the benefit of their exercise of good judgment. . . . . "

But one mill was an oddity. In the standard plants, designed in California to crush relatively soft rock, 850-pound stamps (pestles) would rise and fall 60 times a minute. The mill used a design from Gilpin County, Colorado, where 1,850-pound stamps would laboriously drop 25 to 30 times a minute to crush the granite-like ore of the Rocky Mountains. One mining man later contended that the Colorado design "does not do the work that could be expected from a mill of more modern make." (Meanwhile, at Ibex Tank, 20 miles west of Needles, a well was sunk and a 10-stamp mill started up in May, 1894.)

Though the Nugget glistened only briefly, the next attempt to publish a newspaper turned out to be more successful. After looking the district over, Ben C. Jordan, a young correspondent for the Los Angeles Evening Express, began issuing the weekly Shaft in early December, 1893. The Eye complimented its contemporary on its neat appearance, its good book paper, and its interesting contents, for the merchants were "giving the paper a good share of advertising. ... We wish Brother Jordan and the Shaft abundant success."

Brother Jordan deserved success. His columns of mining news were written clearly and quoted extensively by mining journals. Jordan had an especially clear grasp of the region's concerns. He first advocated the construction of a smelter in Needles, even depositing a specimen of rich ore at the office of the Eye, and later urged the formation of an association of newspapers published along the line of the Atlantic & Pacific (Santa F€!). Both project succeeded. As the summer of 1894 approached, the Eye's co-publisher, F.B. Marion, joined Jordan as a partner, though it was an apparently short-lived arrangement, and the Shaft ordered a plant that would be "one of the best appointed offices on the coast."

The appearance of the Shaft augured well for the district. W.T. Holcomb bought the Vanderbilt Store in December, 1893, and Fred H. Thompson closed his store in Needles to open an outlet in the thriving camp. The Albuquerque Democrat reported in April that Vanderbilt "has already the appearance of a small town, barring of course the unstable appearance wrought by canvas roofs and walls. . . ." The population continued to rise, to 400.

Meanwhile, on a visit to the district in April, the county superintendent of schools created the Vanderbilt School District, hired a teacher, and appointed William McFarlane, Jordan and Mrs. Dave Congdon as the district's trustees. Serving an estimated 25 students, school began in May for a one-month term. A few weeks later, residents voted 88 to 1 to levy a special school tax of $150.

Vanderbilt in fact was shedding some of its rawness. Hay and fruit began to arrive from the Manse and Pahrump ranches in Nevada. When the Powell brothers completed their saloon, a dance was held as a house-warming. Jordan considered it “a very enjoyable event. Messrs. Powell have a host of friends who wish them abundant success.” Then Nay and Yount added billiard and game rooms to ·t heir saloon.

But Vanderhilt; was reaching its peak by late 1894. About 100 men, labored in its mines; they received $3 a day. The trappings of government included a teacher and school board, postmaster, mining-district recorder, justice of the peace, who also served as a deputy coroner, and constable.

The business district was fairly complete and closely knit. McFarlane and a partner named Miller, Fred H. Thompson, and Hall and Stillson ran three well-stocked general stores. McFarlane also ran the post office and owned the Vanderbilt Drug Store, which Dr. E.A. Tuttle managed. Nay and L.O. Yount, Al Powell, and Virgil Earp furnished “the lubricator” at their saloons. Pete McNeal and Gus Hamerstadt were the barbers. Besides a Chinese restaurant, the Gold Bronze company, J. Morrel, and Mrs. Charlie C. Smithson ran eating houses. Nay and Yount and Smithson owned the meat markets. J. Quinn sold stationery and fruit. Andy McShane and E.P. Tolan were the blacksmiths. Mrs. McShane ran the lodging house. Though the camp supported a school, it had no church; services were held in the public halls of various saloons. About all that Vanderbilt lacked was a shoemaker or cobbler and a bank.

But the district did not lack natural resources. Besides the nearby springs, shallow mine shafts provided plenty of water, which cost two cents a gallon. Because of the high elevation, wood (probably piñon) was plentiful; it sold for $5 a cord. Hay and grain cost $40 a ton.

Whether Vanderbilt was booming or declining, its social life remained an almost weekly whirly of well-attended banquets and barbecues, mask balls and hops, whist games and dancing lessons. Sunday activities might consist of Bible school, services, and a stereopticon lecture in the evening. The Bohemian Club, Whist Club, and especially the Slim Men's Society were unusually merry, even holding a pillowcase-and-sheet dance. To enjoy a dance at Blake (Goffs), Vanderbilt's men and women even chartered a train.

In fact, the camp's citizens seemed to relish the unorthodox. Ministers would lecture in the halls of saloons. At Earp's building, which housed a saloon on the ground floor, the upstairs would be used for a polling place, church services, and Sunday school. One early Sunday-school superintendent dealt faro in the Pioneer Saloon on the Sabbath.

The event that put Vanderbilt on the map was a 10-round boxing match staged in August, 1894. A white boxer named Hank Lorraine was pitted against a black boxer named John lee, the champion of northern Arizona. A 20-foot ring was set up in Earp's Hall. About 100 persons watched as the match got off to a slow start, for “one would suppose the contestants were a couple of school boys . . . .”

Then in the seventh round, the “Dutchman” rushed across the ring, pushed lee into a corner, and began pounding him hard. Though both men were aggressive, the battering on lee began to

show. Finally, in the tenth round, Lorraine gave lee several blows that “caused the whites of his eyes to stand out” and “alas! one more from the long arm of the Dutchman reached the objective point and poor lee went down in his corner and failed to respond at all.” Lorraine took a shower and “received the congratulations of the boys.”

Though Vanderbilt was never a wild town, the mixture of guns and liquor could make recreation a bit rowdy. O.J. Fisk, then a young hoist tender, recalled the night when the Whist Club held a well-attended dance in Earp's Saloon. The orchestra comprised only a little reed organ and a fiddle. Escaping from a powder shaft, used as a temporary jail, a drunken miner returned to the dance and shot up the organ. “His life wouldn't have been worth much but it was discovered the organ could still play so on the promise of good behavior the miner was not bothered,” Fisk remembered.

On another occasion, right before a dance, Fisk was getting shaved in Allen's barber shop. “Blood Alley” Mose, a tough, sharp gambler who worked for Earp, stormed into the shop and stuck his pistol in the barber's ribs, accusing him of cheating at craps. Fisk, still lathered, beat it out the door. A fast talker, the barber persuaded Allen to have a drink next door, and a round of drinks led to a friendly parting. Fisk, meanwhile, had to borrow a razor to finish the job.

Some forms of amusement, however, were downright nasty. Miners walking along the trail to the Boomerang Mine liked to throw rocks at the house of Quen Gee, a laundryman. He retaliated, first by firing a pistol at two of his tormentors, then by getting out a double-barreled shotgun. “... He means business, too.”

As Fisk had already found, drinking could lead to near-fatal consequences. A man named Smith, who had taken “too much benzine,” was thrown out of Morrel's restaurant for continuing to use “foul language.” Smith returned with a borrowed pistol. Though Morrel managed to nab the gun, the two men scuffled and the pistol went off; the ball passed through Morrel's arm. In the justice court a few days later, Smith was fined $20 for assault to kill, the man who loaned out the pistol was charged as an accessory, and Morrel was cleared of an assault charge. Perhaps not coincidentally, an iron cage was being erected for use as a jail.

Meanwhile, as the mines were pushed deeper, the district experienced several fatalities. The first death occurred when a young miner was “blown to pieces” in a powder explosion in the Boomerang in May, 1894. He was buried that same afternoon, with a large crowd attending. The next month, a miner fell down a shaft at the Gold Bronze after his candle was blown out. Though Dr. Tuttle was called, the miner had apparently died instantly. All mines and businesses closed during the afternoon of the funeral.

It was characteristic of Vanderbilt that its decline began early. Williams had found quiet times as early as December, 1893. Though the mines remained active through the summer of 1894, rot was spreading into the business district. Finding that “business was too dull in the camp,” Holcomb closed his store in July and moved his stock to Needles.

More ominously, Jordan suspended the *Shaft* a month later. A correspondent for the *Eye* explained that “Editor Jordan, like the Arab, silently stole away on horseback in the middle of the night--bound for Utah. He left the following notice pinned on the office door: 'The *Shaft* is sunk. Development work has closed, for no success has attended QUI' efforts to find the pay streak. To our enemies we say: If you can get any comfort out of the failure of one whose efforts are and have been entirely for the good of the camp just take it and may you be happy. To our friends we say:

Good luck to you, and please accept our thanks for what you have done for us. To all, our friends and our enemies, those we owe and those who owe us, we say--Adios.'" A week later, an agent of a San Francisco type foundry packed up the plant and shipped it to the farm town of Perris, in Riverside County.

The coming of winter, 1894-1895, brought even duller times to main street. Though Thompson had just put "a knobby coat of paint" on the front of his store, Hall and Stillson in December had decided to close their store and were selling off their goods. And soon after enlarging his business, Earp sold his building. As the year closed, the Nevada Southern went into receivership; the Sunday train was cut out from the seven-day schedule to Manvel.

The Bronze and Boomerang were still going steadily. The Bronze had by now produced $47,000 in two years, and Campbell's monthly paydays would make the town lively for a few days.

Even so, mining tended to be erratic. Fourteen men would be working at the St. George group for a while, 50 at the Boomerang at another time. The shaft of the Bronze seems to have gone down 260 feet, the Boomerang's shaft nearly 500 feet. Yet statistics on the labor force and production are too sketchy to reveal a complete picture.

Especially detrimental to the advance of mining were the two mills. They operated at a feverish pace, up to 24 hours a day--but only intermittently. Too often, they would be closed because of a shortage of water, or a broken part, or the lack of are. Because of the. Gilpin County design, one mill was unusually inefficient. Many suspected the mill operators of losing much of the gold in the waste during processing. When Williams had a load of ore processed at the Boomerang's mill, at least $9 in gold had been lost (in the tailings) for each ton of ore milled.

The decline continued into 1895. Work on extending the roadbed of the Nevada Southern to Vanderbilt was suspended. So dull was the district that when Campbell paid his men their monthly wages, one correspondent wryly noted that if "there were two or three more companies that paid off as regular this camp would be quite lively." A visitor in May found that "times were rather dull here." In the meantime, Smithson's partner in the meat business sold out.

Belatedly, in May, one mill was modified. "... The sound of the stamp is quite an improvement on the old slow-motion Gilpin County mill. It is equal to a California fast-drop mill now and will certainly treat twice as much ore as heretofore."

But the changes seem to have come too late. The Bronze, which employed 12, was placed in receivership in June. The receiver, W.N.Crandall, a former contractor on the Nevada Southern, was expected to "handle the mine in a business-like way. . . ." And though Campbell was working a large force at the St. George, from which he was laying a pipeline to the Boomerang's mill, the failure of the project to provide an adequate supply of water nearly crushed Campbell and Williams alike.

Although news of mining began to peter out in the summer of 1895, the school managed to close the term with a healthy enrollment of 22, and the town would maintain a semblance of a business district for several years.

The fortunes of Williams illustrate the plight of small, independent miners during the "boom" years. The mill of the Bronze lost so much gold--perhaps up to 20 percent--that Williams and fellow independents considered suing. Then the "mere robbers" at the newly built Klinefelter Mill,

on the Atlantic & Pacific, paid Williams just enough to cover the costs of milling and freight. Though Campbell finally got enough water to mill custom (outsiders') ore, the plant remained in such poor condition that processing Williams's ore netted him only a modest profit. Finally, in the summer of 1895, a milling at the Boomerang brought Williams and a brother $600, enough to payoff all his debts and enable him to make a trip to his parents in Kansas.

Williams refused to give up. "I experienced considerable vicissitude of fortune and certainly underwent a variety of mental thrills. All the way from feelings of assured riches to troughs of deepest dejection. As I can see now, there was no special occasion for either, but I was inexperienced and Vanderbilt was seething with sanguine expectations that year. For a time everyone who saw my mine insisted that it was a bonanza, just like they had seen in Granite Mountain, Leadville, or some other famous camp. . . ."

Perhaps it was the perseverance, the stubbornness, of such hardy men as Williams that kept Vanderbilt alive. A state geologist in 1896 found that the boom times were "now lacking, but few of the mines are being worked, and the population greatly decreased. . . ." All the mines except the Boomerang were being leased out to independent miners. Williams himself worked the mines on and off until the district's death.

But small mines could not keep a district alive. The school dropped from 19 pupils in 1897 to eight in 1898; then it closed. The post office closed in March, 1900.

SOURCES: Fred Holladay has written a detailed cultural and social history: "As Rich as Vanderbilt," *Heritage Tales* (City of San Bernardino Historical Society, Annual Publication 2, 1979), pp, 1-16. David Myrick offers a comprehensive history of the district and its railroads in *his Railroads of Nevada and Eastern California, II* (already cited).

The press faithfully recorded the social and mining life: Needles Eye, 1891-. 1894; *Saturday Review* (San Bernardino), 1895-1896; and the *Mining & Scientific Press*, especially 1893-1896. Two young men recalled the camp's best days: Frank Williams, in his autobiography (typescript of copy in Department of Special Collections, University of Nevada, Las Vegas), and O.J. Fisk, "Treasures from Vanderbilt," *Westways*, June, 1952, pp, 22-23.

Several writers interviewed O.J. Fisk and photographed several still-intact buildings: O.J. Fisk and Philip Johnston, "Treasures from Vanderbilt," *Westways*, June, 1952, pp, 22-23; Nell Murbarger, "Sleeping Ghosts in the New York Mountains," *Desert Magazine*, October, 1957, pp. 24-28; and L. Burr Belden, "Vanderbilt Ranks High on List of Rich, Wild Camps," Nov. 3D, 1952, p, 20, and "It's Gold: We're Rich as Vanderbilts!" Jan. 19, 1964, p. B-7, both in the San Bernardino *Sun-Telegram*.

MANVEL (BARNWELL)

WHAT DAGGETT WAS TO CALICO, Manvel would be to Vanderbilt. It was not Vanderbilt's gold but Isaac Blake's railroad that opened up the eastern Mojave. Grading on the Nevada Southern Railway got under way in January, 1893.

By late February the grade extended to the Briggs 8. Murphy ranch, 26 miles north of Gaffs, at the foot of the New York range. A construction camp here was named after Allen Manvel, the president of the Santa Fé Railway. A post office opened in late March, only a month after Manvel's death.

This early Manvel camp was near the construction camp of Purdy, where a few business houses (probably in tents) grew up about May. The camp was named after Warren G. Purdy, a Chicago railroad official and a partner of Blake. The first recorded violence along the line occurred at Purdy when a -tramp assaulted and robbed a drunken Indian.

The grade was soon pushed a few miles up the slope to Summit camp. Summit stood on a juniper-covered mesa at 4,800 feet. A pass led five miles north -t o Vanderbilt; a gully led eastward into Nevada. The first scheduled train arrived about August, when Manvel post office and the business houses of Purdy were moved to Summit. Leaving Gaffs daily at 7:30 a.m., a train would chuff into Manvel at 9:45. The Pioneer Stage Line would then take passengers to Vanderbilt for $2. The train returned to Goffs late in the afternoon.

Days later, the district experienced its first tragedy. In a quarrel over wages, Thomas Stevens pumped four shots into mine owner F.A. Fillmore while they were riding near Manvel. Then Stevens dismounted and shot Fillmore in the head. A deputy sheriff quickly organized a posse but lost the trail. A few days later, prospectors found Stevens's body: he had shot himself in the head.

As summer waned, traffic over the Nevada Southern increased. Though the panic and depression had halted work in June, crews continued to cut a grade to Vanderbilt through the rocky through the rocky hills to Vanderbilt. At Manvel,

R. J. Halsey was keeping a grocery store. E.H. Leibey built another store in October and moved his stock of merchandise from the New York mines; Leibey was named postmaster. Manvel also contained a telegraph office and the depot. When the Briggs 8. Murphy ranch was incorporated as the Rock Springs Land 8. Cattle Company in early 1894, about 50 persons lived in town. In a region where the Needles school district encompassed 7,000 square miles, Manvel served as the distributing point for a vast hinterland. Good reports were coming from the mines at Vanderbilt, Goodsprings, Crescent, Montgomery: the Potosi mine, near Goodsprings, for example, contracted to ship 100 tons of ore a day through Manvel. One correspondent asked for daily or triweekly mail service and a stage line to serve the hundreds of men laboring between Manvel and Pioche, Nevada, several hundred miles north. After considerable clamoring, the residents induced the county to work on the road leading from Manvel to Vanderbilt and the Nevada camps in early 1895. One shipment for the Montgomery mines, 125 miles northwest, totaled 25 tons and two six-horse teams carrying provisions.

One editor pointed out that the eastern Mojave “does not ask for much, and it seems that a road over which large freight teams pass daily, heavily loaded with valuable machinery, ore and merchandise, should be put in proper condition at once. . . .”

By early 1898, Manvel supported a flour, grain, and lumber dealer, a hotel, a blacksmith, the post office, a justice of the peace, and a general store and a stage line running to Montgomery, both owned by T.A. Brown. Mail arrived three times a week. A school district was organized in 19.00. Manvel was indeed booming.

Manvel lost some of its importance when the Nevada Southern built a 15-mile extension past deserted Vanderbilt to serve the revived Copper World Mine. When the branch was completed in early 1902, Ivanpah station was built at the end of track. (A few months later, the Santa Fé bought the Nevada Southern and renamed it the California Eastern Railway.)

The daily arrival of the train from Blake (Goffs), "heralded by smoke rising over the southern mesa," was the event of the day, recalled Edgar Brown, the son of the leading merchant. Within minutes, Engine No.1 would sweep "majestically around the bend and hissed to a stop at the small unpainted station. From the single day coach came the white-collared 'drummers,' mackinawed prospectors, pompous mining promoters, and the ever-interesting pageant of gold-seekers and sucker-seekers."

Then to the station platform came a procession of 20-mule teams generating clouds of dust and volumes of curses. Swampers would break their backs loading massive mining machinery, cases of dynamite, tin water pails, even rails for the narrow-gauge railroad at Searchlight. With towering loads, a full water tank for their animals, and a case or two of tomatoes to slake their own thirsts, the teamster and his swamper would set out for Goldfield and Goodsprings, Searchlight and Death Valley.

Then came the boom at Searchlight, Nevada, 20 miles to the east. Though large deposits of gold had been found in 1897, the companies began to develop their claims and build mills only about 1900. A weekly newspaper and narrow-gauge railroad running to the Colorado River started up in 1902. The output of Searchlight's mines rose from $388,000 in 1904 to a peak of $530,000 in 1906. By then, the camp supported two weekly papers, well-stocked stores, more than a dozen saloons, a chamber of commerce, telephone exchange, and school.

Manvel enjoyed its heyday from 1902 to about 1907. The amount of freight leaving Manvel for Searchlight was immense; serving the freighting business were a station and telegraph office, freight-forwarding house, and a Wells, Fargo & Company agency. The post office's heavy business entitled it to sell money orders. At the Brown-Gosney store, it was "nothing unusual to have the daily sales amount up into the thousands of dollars. . . ." The importance of Manvel as an entrepot was shown when a fire destroyed the railroad freight house in December, 1904. The losses included an immense amount of freight, several cars standing on a siding, and drums of distillate, which exploded. (To prevent confusion with Manvel, Texas, first the Santa Fe, then Wells, Fargo, and finally the post office, in February, 1907, changed the name to Barnwell.)

The guiding light of Manvel was T.A. Brown, the co-founder of the Brown-Gosnsey store in 1895. In a low, rambling building, Brown and his partner "built up a business reputation and standing which was as strong as the building itself was weak and disreputable. . . ." From well-stocked cellars, Brown also carried on a wholesale whiskey business and ran an informal bank from his safe. Burningly ambitious, Brown over the years organized a phone system, ran freight lines and a stage line, and opened branches in the camps and towns of the California-Nevada border: Vanderbilt, Searchlight, Sandy, Ivanpah station, Leastalk, Las Vegas, Calivada, Nelson, and Hart.

His wife, meanwhile, would organize church meetings, take care of drunks, and counsel the wayward. Since Manvel's only doctor was ravaged by drugs, her son recalled, Mrs. Brown "probably doctored more cases of croup, mumps, fever, broken bones and lacerations than some medical men undertake in a lifetime. . . ." The school, too, flourished, never falling below 15 pupils..

To young Edgar Brown and the 20 to 25 other boys in town, Barnwell--the name he knew the town as--"was a world of fabulous hunting, exploration, horseback rides, and a complete and uninhibited satisfaction of curiosity. . . ." At the Green corral, where the lads would watch working rodeos, the cowboys stood out like characters in a dime novel. Their leather chaps, black vests, black, narrow-brimmed felt hats, red kerchiefs, and Bull Durham tags hanging out of their vest pockets made them colorful characters.

Earning spending money turned out to be a bit more difficult. The boys would help swampers load cases of dynamite--it took them a while to realize that the explosive was shock resistant--and sell discarded whiskey bottles for a nickel each at the rear doors of saloons. Custom prevented minors from entering.

Ironically, Searchlight's rise would hasten Barnwell's decline. A major rail line from Los Angeles to Salt Lake City was completed in early 1905. It passed only 20 miles from Searchlight and 15 miles from the Copper World Mine. In response, the Santa Fé built the Barnwell 8. Searchlight Railway, 23 miles long. It was completed in March, 1907. Trains ran daily except Sunday. The heyday of teaming was over. Searchlight's output began to plummet at once, probably hastened by the onset of the panic and depression in October. At Manvel, blue pieces of scrip were used as money; families began to drift away.

The discovery of gold at Hart, a few miles south of the Barnwell 8. Searchlight Railway, at first promised to revive Barnwell. But within months, by mid-1908, Hart supported a business section that far surpassed Barnwell's. Hart's distributing point was Hitt, a siding and freight house near the Nevada line. Yet Hart would wane during the next few years, too.

Barnwell's decline was also hastened by a fire that destroyed most of the business district in September, 1908. Though smoke had alerted the residents, they lacked the means to fight fires. The flames turned the store into "a roaring mass" and spread along the line of buildings until it reached the Santa Fé station. The agent managed to remove all records and books and "pluckily staved with his telegraph instrument" until the wires were burned. The loss of the store building and its contents amounted to $15,000.

Insurance covered most of the damage. The Brown-Gosnev store began rebuilding the next morning, and a boxcar was turned into an' office for the railroad.

Barnwell essentially gave up the ghost in 1910. The Brown-Gosney store, whose main office had moved to Searchlight, closed in February. Branches operated only at Hart and Sandy, Nevada. In May, just after midnight, station agent W. J. Connor observed a fire at the corral and barn of the Rock Springs company. In his excitement, he failed to reattach his artificial foot but still hobbled around "at a lively rate spreading the alarm." It was too late: the corral, barn, feed, and hay were destroyed; six horses were killed and two critically burned. The loss was put at $3,000.

The dull times were broken by a quarrel in Gus Hamstadt's saloon in early 1911. During a card game, John Carter pulled a gun on George Ross. Constable

F. Clements arrived, disarmed and arrested Carter, and took him to San Bernardino for trial. The emergence of farming colonies at Lanfair, 12 miles to the south, pushed Barnwell's school enrollment up for several years. But the outlook remained poor: the output at Searchlight's mines continued to drop, to $23,000 in 1911. The Brown family moved away in 1912.

But when a report appeared in San Bernardino in early 1913 that Barnwell was a “town of the past where inhabitants, business and future have departed,” a Needles paper only scoffed. Nearly 100 persons lived in town, it contended, eight pupils were still enrolled, and the business district still comprised a general store, saloon, two blacksmith shops, and a feed corral.

When newlyweds Bert and Maud Sharp moved to the Lanfair area in 1914, a few persons still remained, including the ranch owner and his sons, the postmaster, a prospector, the section foreman of the railroad and his crew, and the legendary Dick Diamond and his wife, Matilda. The Diamonds, the community's only black residents, lived in a neat little cottage. Diamond was a prospector, cook, and jack-of-all-trades.

A few scattered buildings made up the town. The cattle company's buildings included the main house, two small bunkhouses, the barn, corral, and slaughterhouse. Across the railroad to the south stood the houses of the railroad workers. The station and loading platform stood in the angle formed where the railroad branched off to Searchlight. North of the cattle company's house was a large two-story building, perhaps the former hotel. Across the railroad to the west stood the abandoned saloon and several small houses.

Meanwhile, Searchlight's newspaper folded, its chief mill burned, and the California Eastern began cutting back service. The post office at Barnwell closed in April, 1915. The school closed about 1918, though the train still ran daily and travelers could get water at the depot. But rail service to Searchlight was soon cut back to twice a week. Then the entire system, all the way to Gaffs, was shut down in late 1923 and the rails torn up.

SOURCES: As a supply center, Manvel (Barnwell) attracted little of the attention that, mining camps did. Brief, lavishly illustrated accounts appear in David Myrick s *Railroads of Nevada and Eastern California, II* (cited earlier), and in Stanley Paher’s *Ghost Towns and Mining Camps of Nevada* (Berkeley, 1970). Edgar A. Brown, the son of the chief store owner, recalled his boyhood in general terms in "The Manvel I Knew," *Westways*, October, 1956, pp, 22-23. The Searchlight *Bulletin* and Needles *Eye* printed occasional news items, 1902-1911.

BORATE AND MARION

GOLD AND SILVER were not the only minerals sought by the mining world.

A borate of lime known as “colemanite,” with “prismatic crystals that sparkle in the sun like diamonds,” was found in 1882 in Mule Canyon, a twisting defile with “more crooks and pitches than the streak of chain lightning.” The veins were only 12 miles from the newly established station of Daggett. In what was probably the first development of a nonmetallic mineral in the Mojave, William T. Coleman, a San Francisco business magnate and the namesake of the mineral, bought the claims and began working the deposits.

After Coleman's company failed, Francis Marion (Borax) Smith bought the property in 1890. Development began in earnest. Out of three deep shafts came 12 tons of colemanite a day--"sufficient to meet the requirements of the market” --which was hauled by a 14-mule"team to Daggett and then sent north to Alameda for refining. “

Mining in this barren, isolated site was difficult. All water had to come from Daggett, a day-and-a-half journey for wagons. Smith replaced the coal-eating steam engines at the mines with gasoline engines, but an attempt in 1894 to replace mule teams with a monstrous steam tractor named Old Dinah failed. Though few miners received any letters, each paid one dollar a month for the pleasure of having a girl bring mail five miles from Calico two or three times a week.

The experience with Old Dinah illustrated the growing importance of borate minerals. The borates generated more revenue in 1895 than all the county's silver mines. About 75 men worked in the mine in early 1896, though employment would fluctuate with the demand for borax. Small gasoline engines hoisted the borates to bins, from which three 20-mule teams would haul the mineral to Daggett. The activity was so great that a post office named Borate was established in July, 1896.

The camp by then comprised a simple cluster of cabins jammed between the road and the walls of Mule Canyon. Although many miners preferred to live in dugouts during hot weather, the company provided a bunkhouse, a store, which later housed the post office, an understocked reading room, and houses for the superintendent and storekeeper, who had families. On a steep hill overlooking the mine stood “The Smith House,” which was used by Smith and other company officials. The house had to be attached to the rocks with guy wires to keep the area's high winds from blowing it over.

It was a wonder that Smith's concern, Pacific Coast Borax Company, was able to maintain even this simple operation. The demand for borax had fallen during the depression of the 1890's; vicious competition kept prices low. Management had already cut the meager wages of its miners from $3 a day to $2.50, though the price of board was cut from $1 a day to 75 cents.

Smith had to find another outlet for his product. That summer, 1896, Smith sailed for Europe, where he was introduced to two young men who were making food preservatives. They needed a steady supply of borax. Without delay, Smith engineered a merger of their two companies and, the next year', they built a modern refinery at Bayonne, New Jersey, to fend off competition in the East. Then, in early

1898, the new regime built an 11-mile narrow-gauge railroad, the Borate 8. Daggett. Over it rolled two locomotives, the Francis and Marion, and flatcars that could be converted into mineral carriers. Four miles north of Daggett, at Marion siding, a calcining plant was built to roast low-grade ores. High-grade ore and the roasted product were shipped to Alameda (later to Bayonne) for refining. In mid-1900, exactly 100 residents lived at Borate and 17 at Marion, including several women and children.

But trouble continued to haunt Smith. Though large, the mineral deposits at Borate were becoming less pure and harder to refine. The high cost of mining and processing made borax mining a marginally profitable business at best. Meanwhile; small but well-established rivals, notably the Sterling Borax Company, were pressing the Pacific Coast Company hard.

Smith devised a strategy to rescue his holdings. In late 1902, he sent prospectors to Coleman's original claims in the Funeral Range, just east of Death Valley, and even considered the construction of a steam-tractor road. Spurred by the gold and silver strikes in western Nevada, Smith began work in 1904 on a railroad to Death Valley, the Tonopah 8. Tidewater. The summer was so hot that he closed the Marion plant and reduced the force at Borate to 25 men.

The relocation of borax mining was no small matter. Only a year before the shutdown, 250 men worked in the mine's two 600-foot shafts. The Bayonne plant by then was processing all the ore.

But Borate would soon be history. Even before the arrival of the Tonopah 8. Tidewater Railroad, a crew was taking out ore from the newly developed Lila C. Mine, one of Coleman's original claims in the Funeral Range. Rails finally reached the Lila C. in August, 1907. To kill off his rivals--or so he thought--Smith cut the price of his refined product from seven cents to five and a half cents.

Smith shut down the Borate operations that October, though the post office lingered until December. The buildings, machinery, and employees were moved to the Lila C. The rails of the Borate 8. Daggett were torn up and the locomotives and the rolling stock sold.

SOURCES: One of the early rushes was covered by the *Calico Print* in 1885. The early operations under Smith were observed by John Spears in his *Illustrated Sketches of Death Valley and Other Borax Deserts of the Pacific Coast* (Chicago, 1892) and by the State Mining Bureau in *Report* 11 (1892).

Because the borax industry was intensely competitive, only a few items leaked out to the press, such as the *Mining &. Scientific Press*, Needles *Eye*, *Saturday Review* (San Bernardino), and Redlands *Citrograph*. One of the few full-length descriptions of the operations was written by Day Allen Willey, “Borax Mining in California,” *Engineering & Mining Journal*, Oct. 6, 1906 (v. 82), pp, 633-634.

Full photographic accounts appear in Ruth C. Woodman, comp., *The Story of the Pacific Coast Borax Company* (Los Angeles, 1951), an authorized history' David Myrick's *Railroads of Nevada and Eastern California, II* (cited earlier); Patricia Jernigan Keeling, ed., *Once Upon a Desert* (already cited); and George H. Hildebrand, *Borax Pioneer: F.M. Smith* (San Diego, 1982), a thorough, well-balanced biography.

MINNEOLA

THE ANTELOPE VALLEY was not the only part of the Mojave Desert that seemed ripe for farming.

The Mojave River Valley, winding through the central desert, was an especially popular locale in which to start ranches and farms.

The most unusual and ambitious attempt to colonize the valley was made by the Southern California Improvement Company, organized in the early 1890's. The concern planned to drive a wooden barrier, or submerged dam, into the usually dry riverbed near Daggett and dredge out a ditch to a proposed farming colony, named Minneola, three or four miles to the east. Besides building up a town, the company hoped to provide hydroelectric power to the mines and mills of Calico.

Work apparently got off to an energetic start in 1895. A correspondent for the San Bernardino Daily Sun reported in December: “With our bright sunshine and balmy weather we are able to combine anticipation of the settlement of this desert which is as fertile as can be found anywhere, provided it can be irrigated, the accomplishment of which is apparently near at hand.” Employing 80 men and 34 teams of horses, the company was pushing work “with great vigor.” A “fine hotel” was scheduled for construction, large crops of good fruit and alfalfa were assured, and “All feel that a bright future for the desert has dawned . . . .” In fact, backed by railroad officials and extravagantly promoted, Minneola was envisioned as a major center of agriculture and industry in Southern California.

Yet Minneola would never develop beyond a modest colony. It had to be conceded in March, 1896, that “not much settlement” had taken place. Forty acres of barley planted by the company was “coming up nicely,” a 50-foot well was producing “reasonably cold” soft water, and work on the dam, once suspended, was about to resume. Meanwhile, petitions soon led to the establishment of a post office (April) and, with 22.children in residence, a school district. The construction of a depot, blacksmith shop, even a plant-fiber factory were planned. At its peak, Minneola contained the hotel, a real-estate office, the school, the post office, and several houses.

But the mid-1890's turned out to be a poor time to start a farming colony. A prolonged depression and drought dried up the prospects for investment and cultivation. The post office closed in May, 1897. Though the company completed the long ditch, the dam and flume were left half finished, the riverbed yielded only one-quarter the expected water, and the concern went bankrupt in 1898. Stimulated by a few small revivals, the school district survived until 1924.

SOURCES: Information is scant. The story of the colony pulled together from occasional pieces in a variety of publications, especially the Redlands *Citrograph*, David Thompson's water-supply paper on the Mojave Desert (cited earlier), and J.B. Lippincott, “Water Supply of San Bernardino Valley,” in U.S. Geological Survey, *Nineteenth Annual Report* (1898), pt. 4.

DALE

WHEN THE VETERAN TRAVELER J. Smeaton Chase stopped at a mine in the Dale district in 1915, he looked at the precarious lifeline that connected the district to the nearest railroad, at Amboy: "The view to the north was memorable as an example of the ultra-desolate. Beyond the ragged brown foreground lay the pale gray expanse of a dry lake, whitened near its centre by the alkaline deposit from its vanished water. Beyond that rose the ashy wall of the Sheephole Mountains, quite lunar in their look of geologic age and dreariness. A thread-like line that skirted the lake bed and faded in a gap of the hills marked the road to Amboy. . . ."

Who would dare to mine in such an area? An untold number of hardy loners and sophisticated investors from the cities of California. Within miles of Chase, who was staying at the Supply Mine, were half a dozen producing mines and a dozen or two that occasionally made news.

The earliest history of the district is murky. The Virginia Dale Mine was discovered in 1885, reportedly by Tom B. Lyons and Johnny (alias Quartz) Wilson. The claim lay about 35 miles south of Cadiz, a station on the Santa Fé line, and near a dry lake named after prospector John Burt (since renamed Dale Lake). Lyons and Wilson organized the Virginia Dale Mining Company and built a five-stamp mill--the first in the district--at a well near the lake bed in 1887. (Alas, "one of the sandstorms for which the desert is famous" later buried the plant.) Yet even with such a favorable start, mining remained stunted for nearly a decade.

Starting in 1895, strikes of moderate-and high-grade ore stirred the region's mining circles. The owner of the Gypsy Mine personally brought in 16 men, a train of three wagons and 12 horses, machinery, camp equipment, and enough supplies to last two months. By early 1896, the district had become "overrun with miners and prospectors." Two county supervisors came across 20 teams "heavily loaded with prospectors' outfits." The Redlands *Citrograph* gushed that the "next rush in mining circles will be to Virginia Dale. Mark the prediction. . . . Soon mills will commence their ceaseless clatter and then money will begin to go out in streams. Keep your eye on Virginia Dale."

About then, a settlement of adobes grew up around a well dug by Lyons (Burt's Well), near the Virginia Dale mill. A post office, served by daily mail deliveries from Cadiz, was established in November, 1896; supplies and lumber were still teamed by Walters Station (the present Mecca), on the Southern Pacific Railroad, to the south. Weeks later, the county supervisors were asked to establish a full-fledged "court; township. ". . . Now when they get a justice of the peace and a couple of constables, together with a deputy sheriff, Virginia Dale will blossom out into a regular, old fashioned, flourishing mining camp with all the necessary concomitants."

These words were hardly an exaggeration. About 600 to 700 men were doing "a great deal of work" in a 12x16-mile district in early 1897. Dale City was platted in March. "Things out in Virginia Dale are lively, very. . . ." Dale City supported two stores, the post office, a blacksmith shop, wagon and stage lines running to a railroad, and "other concomitants .of civilization will very shortly materialize. . . . everything is lovely."

The district was a poor man's dream. Eight to 10 dry-washing machines were at work in June, 1897. That fall, 15 men were taking out $1,000 in placer gold a week. Despite the heat, 40 to 50 men worked in the district during the summer of 1898. An estimated $25,000 had been taken out of the placers in 15 months.

The lode miners, too, were doing well. By the fall of 1898, four small stamp mills were running, and the mines were turning out $1,000 a week by early 1899. Two of them were soon down several hundred feet.

But this boom began to fizzle. The placers were petering out, and the lode mines were slow to develop. Nor was the weather “wholly inviting to the tenderfoot.” With temperatures hitting 125 degrees F., most of the mines suspended work during the summer, although rich deposits at the Capitol (Capitola) group kept operations going year round.

The district's isolation remained a greater problem. Freight and mail were carried along roundabout routes through the present Joshua Tree National Monument to Walters Station (Mecca), Banning, and Palm Springs, about 60 to 80 miles south. The Dale-Walters circuit, of about 150 miles, required five days: the Dale Banning round trip took six days, It might take up to four weeks for a replacement part to arrive. Once, after the O.K. had drilled holes for blasting, it was learned that the mine lacked the explosives to fire the shots. “. . . It is but another illustration of 'so near and yet so far.' . . .”

It was little wonder that freight usually cost $20 a ton. To cross the 4,600-foot summit of Pushawalla Canyon, one teamster would lock the rear wheels of his wagon with chains and a brake-log, then half drag the wagon, chains grating and wheels screeching against the boulders, 20 yards up the grade, rest a few minutes, and repeat this routine eight to 10 times.

The lack of water, however, remained the most serious hindrance to mining. From the district's scattered springs and wells, placer miners had to bring water 10 miles. The Ivanhoe mine and mill brought water four miles, the O.K. nearly 10 miles, and the Brooklyn a record 23 miles.

These drawbacks took their toll. Only 63 persons lived in the district in mid-1900, when mine owner Charles B. Eaton asserted that anyone with “capital and grit enough” to invest in a powerful pumping plant could “bring the camp out with a rush and make money for all interested . . . .”

Eaton did not have long to wait. First, the mining that still went on--lode mining--had shifted south--five, 10, even 15 miles--into the Pinto Mountains. And fully developed lode mining required massive supplies of water.

The company that owned the Brooklyn and Los Angeles mines installed a pump near Dale in the spring of 1901 and laid an eight-mile pipeline over a divide to the Brooklyn and other properties. Though the plant was considered a success “as far as it goes,” its daily output of 5,000 gallons of warm, heavily mineralized water could barely supply the needs of the Brooklyn and the O.K., each with its own thirsty mills and thirsty men.

Other changes followed. The Virginia Dale district was reorganized in January, 1902, as the *Citrograph* joked: “The miners over in the Virginia Dale mining district 'gat themselves together' the other day and declared that 'Virginia must go.' And she incontinently vamoosed. Which all means that the name of the district has been shortened to 'Dale.' . . .” Meanwhile, the county built a wagon road from Amboy, 35 miles away, in contrast to the 75 miles to Walters. A few months later, the town and post office (May) moved eight miles southeast, to a flat below the up-and-coming lode mines. Since Dale had no. hotel, overnight visitors would sleep in the store. Mail still arrived from Palm Springs once a week, but a well-circulated petition led to making Amboy the jumping-off point by early 1903. .

As Chase later observed, this shortcut proved to be a formidable route. Travelers paid $5 to ride in a buckboard stage from Amboy; the barren lunch stop was humorously named “Lakeview Hotel.” Passengers found they' could make better time up the grade from the Amboy salt flats by walking.

Outside new Dale was a tiny graveyard. For years, a wooden headstone marked the grave of Charles Thomas, a miner from the O.K. In June, 1903, Thomas, who was said to be drunk, went after a $400 gold brick about to be sent “inside"--to the coast. Brandishing his six-shooter-, he marched the population of Dale to the post office, where constable Joe Wagner had left his gun. Wagner “was told to get his gun and get it quick. . . .” Wagner stepped inside, picked up his pistol, and shot through the window. Thomas died instantly. Wagner received “the hearty thanks of the Dale people for ridding the camp of a desperado and would-be thief.”

Nearby stood the heart-shaped marble headstone of Carl P. McCabe. The son of saloonkeeper Percy McCabe and his wife, Adaline, Carl died in January, 1904. He was 10 weeks old.

Even old-timers could become victims. Acting upon a bet, Matt Riley set out on foot for Mecca (formerly Walters) one summer day. He carried only a bottle of bourbon. Riley died within sight of an oasis. And Sam Joiner, who regularly carried long 2x8-inch timbers over his shoulder, was felled by heatstroke. His load pinned him until the sun set, when it became cool enough for him to recover.

Though Dale served about two dozen mines, two were especially important in building up the district.

Though only a small producer, the Ivanhoe built a two-mile road to Dale, brought in crushing and cyanide plants, and laid its own pipeline from Ferguson's Well, near the dry lake, to tanks at the mine. The company brought the district closer to the outside world when it joined the Brooklyn in building a telephone line to Amboy in late 1903. Up to 25 men worked at the mine then. Besides the Brooklyn and Ivanhoe, the line connected the Los Angeles, O.K., and Supply mines and the town.

The Brooklyn, however, was considered the ideal of “legitimate mining.” As early as mid-1902, its mine and mill were running night and day, and its pump was furnishing “splendid water.” Tucked in a pocket of a hill in the Pintos, the camp in April, 1906, consisted of houses and quarters for the men, dining room and a kitchen, and stables. A recently modernized six-stamp mill overlooked the camp.

Coming into prominence was the Supply Mine. The Supply contained the largest ore bodies and most extensive workings in the district, a six-stamp mill, crushing and cyanide plants, and 25 employees in late 1903. But litigation between H.A. Landwehr, a long-time mine owner, and his fellow stockholders closed the Supply after 1908.

When young Fred Vaile, fresh out of Pomona College, arrived during the spring of 1909, the town was about dead. Only the Brooklyn Mine was active. The The only places still doing business were the Shamrock and Dale saloons, a store, and the post office; the barbershop and blacksmith shop were empty. High on a hill stood the redlight “district"--one shack. For $50, Vaile bought a fully furnished cabin--one of only two in town--that contained a bedroom, living room kitchenette, and the only screen door in camp. It was easy to see why Vaile could get in easily. The population

of the town and mine camps dipped to 41 a year later, early 1910. Months later came this report: “No election was held at Dale-once a big mining camp. Like Calico the old camp has gone back to the desert.”

Dale experienced one more important revival. Landwehr, who finally won back title to the Supply and its sister, the O.K., leased the two mines to the United Greenwater Copper Company in the fall of 1911. United Greenwater had fleeced investors at Death Valley a few years earlier and was now awash in cash. United Greenwater was working about 30 men in late 1912, then deepened the main shafts, to 1,100 feet, and finally installed a cyanide plant and a larger mill. The Supply became the most important producer in the district. The property produced so much gold that two workmen stole a bucket of precipitates and took off for Indio. But the precipitates leaked through a hole in the bucket, and a posse caught up with them at Cottonwood Springs, a well-known oasis. But postmaster Isaac (Ike) Reed was more successful. Though a former justice of the peace, Reed fled with $1,075 in postal funds. A Blythe paper joked: “Perhaps Reed got thirsty and went out to Salton Sea for a drink, as water is scarce at Dale, the supply for the camp having to be brought four miles up hill.” Perhaps not surprisingly, the post office was moved to the Supply Mine's camp in early 1915, and Dale was abandoned.

The various booms had created three settlements: the original Dale City, near the dry lake; “New Dale,” to the south; and “Dale the Third,” at the Supply Mine. Another veteran desert traveler, J. Smeaton Chase, found this string of settlements of interest while making a horseback journey in July, 1915.

First, at Lyons' (Burt's) Well, only a “few scraps of adobe wall” remained to mark the site of Dale City, where he “could barely find shelter from the wind in what was left of Virginia Dale. The historian of a mining camp must be early on the scene if he is to find anything more than the ground on which it stood.”

New Dale had degenerated into “a row of little buildings” that served as “blind pigs,” or speakeasies, “a sort of parasite whose only reason for being was to help the miners of Dale to get rid of their money . . . .” A water trough and wary man remained.

Riding up the stairway-like street at the Supply Mine's camp, Chase found a more welcome reception. That “friendly chap,” the cashier, “at once took charge of me as an unexpected guest; insisted on my taking his room for my own, and quartered Kaweah in the 'Company's' stables. Other conveniences were offered by the resident doctor, and in effect I was made free of the camp.”

Chase found 50 to 60 men, half a dozen women, about 10 children, and one “badly spoiled baby.” The mining operation was “a highly organized affair” with electric lights in the buildings and water piped six miles from the lake. “. . .Day and night the whirr and crash of engines goes on unceasingly. It was strange to wake at night and hear the roar of machinery in that remote place . . . .”

Besides the mine structures, the village consisted of “a score or so of temporary looking houses and cabins, spotted about without any pretense of order. A store, with kitchen and dining-room attached, and a cashier's office of stone are all the buildings of any size. The post-office shares quarters with a Club-room containing an antique pool-room, the felt worn to a curiosity and the pockets as hopeless as a bachelor's. Relics of the Fourth remained in the shape of a wire cable stretched across the street with fag-ends of rockets and Roman candles still attached.”

This was the Supply Mine at its peak. It was then employing about 80 men. (In contrast, eight to 10 men worked at the Brooklyn.) But the company was running into water and hard-to-work ore deep in the shaft; Landwehr reportedly was becoming more difficult to deal with. The company cut back its operations; the post office closed in October, 1915; the stage line to Amboy was discontinued in 1916, about when all work at, the Supply and Brooklyn was halted.

For several years, new Dale remained intact. A government geologist found a deserted town in 1918. Only eight residents lived in the area in 1920, though the veteran miner Sam Joiner still inhabited the few buildings. When Dave and Anna Poste arrived to rework the Virginia Dale in 1923, the Dale Saloon remained in immaculate condition--even to the cues and chalk lying at the pool table. In what must have been the Dale Saloon, a writer for *Touring Topics* in 1928 saw a pool table, water cooler, and safe. Bottles still stood on the pool table. Envelopes and old papers gathered dust in the post office.

But as roads continued to penetrate the region, Dale was ignominiously torn apart. Campers-shot apart the thousands of bottles behind the saloon, which was burned. Mickey Thornton, who moved to the district in 1930, took apart the post office and used the lumber to build a shack and burned two sacks of mail, though he later hoped to see a revival of the camp. The Postes saw a car from Los Angeles carry away a dresser, complete with drawers and a sun-warped mirror; another auto had a pack saddle on its hood.

A final revival, (during the 1920's and 1930's, considerably added to the district's output. But because gold mining was considered non-essential to the war effort, a presidential order shut down gold mines throughout the United States in 1942. The Brooklyn had produced more than $150,000 in gold, the Carlyle more than $125,000, the Gold Crown $385,000, the O.K. $200,000, and the Supply more than $500,000.

. . .

. . . Dust unto dust; ashes unto ashes. Not even vandals could erase the romance of the Dale district. Riding south on his horse in 1915, Chase could only marvel at the decrepitude of that narrow canyon “where every hillside had a metallic look . . . . Everywhere were prospect holes, or deeper workings where the mountain had spewed out piles of glittering gray rock. Here and there were scraps of machinery, old windlasses and boilers, dragged here at enormous expense, now mere rusty monuments to the ruling passion; though to be fair, one must say to man's energy, hardihood, and determination, as well.”

SOURCES: The mining and milling operations were fully reported in the *Mining & Scientific Press*, 1894-1905, and the Los Angeles *Mining Review*, 1899-1904, and the Redlands *Citrograph*, 1895-1907. Two modern mining operations (the Brooklyn and Supply) impressed George Wharton James, *The Wonders of the Colorado Desert* (Boston, 1906), and J. Smeaton Chase, *California Desert Trails* (Boston, 1919). Philip Johnston visited the ghostly ruins: “Derelicts of the Colorado Desert,” *Touring Topics* (*Westways*), February, 1928, pp, 14-18, 37, 39, and 41-42.

The best modern account is in Lulu Rasmussen O'Neal's classic history of the Twentynine Palms area: A Peculiar Piece of Desert (Los Angeles, 1957), which has recently been reprinted.

Interviews form the basis of three popular accounts: Harold and Lucille Weight, eds., “Ghost Town With Restless Feet,” *Calico Print* (Twentynine Palms), June, 1951; Ronald Dean Miller, *Mines*

of the High Desert (Glendale, 1965); and Johns Harrington, "Flight from New Dale," *Westways*; March, 1943 (v. 35), pp. 14-15. These accounts all contain interesting photos of Dale II.

William Clark's *Gold Districts of California* (cited earlier) contains somewhat general figures on the output of the leading mines.

The district seemed to be a favorite of L. Burr Belden in the San Bernardino *Sun-Telegram*: "Dale District Long Producer of Rich Gold Ore," Feb. 21, 1954, p, 20; "$100 Ore From Dale Noted by Mint's Director," June 23, 1957, p 24; and "Valley Leaders Are Owners of Brooklyn Group," June 30, 1957, p. 20.

COLUMBIA MINE

THE MACEDONIA MINE. One of the pioneer discoveries of the early 1860's, would suffer a checkered existence. The property lay in the Providence Mountains, about 20 miles west of the future town of Manvel (Barnwell).

Mining revived briefly about 1871, when the Macedonia area was renamed the New York mining district. A small mill was built at the mine in mid-1872, and a little rich silver ore was shipped out a few months later.

Information on the district's history remains sketchy. The Macedonia was reactivated as the Columbia Mine about 1897, when the workings were extended. Employing 12 men in December, 1900, a Los Angeles company completed a 10-stamp mill and a well a few months later. The ore on the dump was expected to yield about $180 a ton in gold and silver. A post office (Columbia Mines) was established in September, 1901. An improved source of water aided the mill's operations. Twenty men were working in March, 1902 when the San Bernardino County sheriff shut down the mine at least for a while. The post office closed that November. To satisfy a large claim, the sheriff attached the mine a few months later, in January. 1903. The mill was removed in 1905.

Several short-lived revivals followed, mainly in 1910, when the mine was pumped out and another mill built.

SOURCES: Larry Vredenburgh and others, in *Desert Fever*, give a concise history. What little else is known comes from occasional items in the Los Angeles *Mining Review* and Redlands *Citrograph*, 1897-1903.

COPPER CITY

COPPER CITY, 30 miles east of Randsburg, was the most prominent of several speculative copper-mining ventures around Barstow and Randsburg. J. Irving Crowell of Los Angeles began sinking shafts and wells as early as September, 1898. The ore yielded copper and gold. Crowell sold out to a Boston company, which employed about 20 men in late 1899.

What kept Copper City on maps for decades, however, was not its ore but its water. The deepest well sunk by Crowell went down 94 feet; a shallow well produced 3,000 gallons a day in 1900.

The heavy promotional activity seemed to wane by early 1900, but work at the claims continued. The Juanita shaft, the deepest at Copper City, reached 212 feet by 1902. A small mining camp still stood in 1909, but the houses were found to be desolate and in ruins in 1917.

SOURCES: *Desert Fever*, by Larry Vredenburgh and others, summarizes operations. The Juanita and other properties are profiled by Lewis E. Aubury in *The Copper Resources of California* (California State Mining Bureau, Bulletin 23, 1902). The boom was covered by the *Mining & Scientific Press* and the Los Angeles *Mining Review*, 1898-1904.

COOLGARDIE

THE COOLGARDIE DISTRICT was a boon to many small-scale miners. The district comprised a string of dry-washing camps about 20 miles north of Barstow.

The first placer gold was found in shallow gravels about May, 1900. The discoverer was Dick T. Duncan, one of the discoverers at Kramer, who named his claims the Black Nugget. A few miles away lay the Coolgardie placers. Meanwhile, tipped off about the strikes, J. W. Murphy and Jack Harrison rushed in from Johannesburg and claimed a large area a few miles east of Coolgardie. (Murphy would sink a well, still shown on maps.)

The news of the strikes set Randsburg "agog," for "miners, prospectors, speculators and all kinds of men are pulling there by the dozens. . . ." The news had traveled so rapidly and taken "such a hold on those whose main object in life seems to be to chase up every story of a rich discovery, that at least 200 people are now en route to the .ground from all points of the compass. . . ."

But Coolgardie would disappoint many, Water was lacking: it had to be hauled in from springs and wells 10 to 15 miles away. Then, too, prospectors from Randsburg, Mojave, and elsewhere snapped up the placer properties in just a week or two. At Black Nugget, for example, the first prospectors, including Murphy and Harrison, claimed 800 acres. And still the prospectors flocked in, 75 arriving from Randsburg in late May.

Mining revived by August. The miners tended to recover $5 to $25 a day. A few men struck bonanzas: in October alone, three miners took out 91 ounces of gold in three weeks--"... Better than a print shop in Redlands," joked the editor of the Redlands *Citrograph*--and Duncan sold a lot weighing 90 ounces. Meanwhile, one group had taken out $6,000 in gold in only a few months.

Perhaps because the mine owners refused to sell or lease their claims, the population staved fairly small. About 10 men were working at Black Nugget in late August; the district contained at most 30 men in early September.

Mining remained active at least through November, 1900, but rain that winter shut down most of the operations.

Still, limited work continued for decades. One company in 1907 claimed to have installed a highly efficient dry-washing system that could process 100 tons of gold-bearing gravel a day. As late as 1909, Coolgardie was found to be a small mining settlement, with cabins scattered over several square miles. By 1911, the district had produced a reported $100,000.

By then, however, the placers were probably almost exhausted. Only one or two miners were seen at work in 1917.

SOURCES: The Los Angeles *Mining Review* covered the boom, 1900, 1907-1908. Occasional items appeared in the *Mining & Scientific Press, Engineering & Mining Journal*, Redlands *Citrograph*, and Patricia Keeling, *Once Upon a Desert* (cited earlier). Vredenburgh and others, *Desert Fever*, describe the boom.

STEDMAN (CAMP ROCHESTER)

If one mineral in the desert surpasses them all, it is water. While searching for water for the Santa Fé Railway about 1898, roadmaster John Suter found a promising deposit of copper and gold in the parched hills south of Ludlow station. His Bagdad and Roosevelt claims and the adjacent property of John H. Gentry became the nucleus of the Buckeye Mining District.

Though both men vigorously worked their claims, the district amounted to little until Suter in early 1901 sold the Bagdad group to a syndicate composed of members of the New York Central Railroad. The first shipment of Bagdad ore went out that December. Processed in the syndicate's mill at Barstow, it yielded more than $17,000. Within months, 47 men were taking out 125 tons a day. Bullion returns averaged $600 a day in early 1903, and the company pushed the output to 200 tons a day. Meanwhile, director Benjamin E. Chase bought Gentry's claims and organized the Bagdad-Chase Mining and Milling Company.

The lack of cheap transportation limited shipments to the richest ore. Under the watchful eye of Stagg, the syndicate started work on a standard-gauge railroad to run eight miles south from Ludlow. Named the Ludlow & Southern Railway, the line was completed in June, 1903. Water for the camp was hauled in tank cars from Newberry station, near Daggett.

Though small camps clustered around the Gentry and Roosevelt groups, the main settlement was at the Bagdad. It was named Camp Rochester, in honor of the hometown of several syndicate directors. While 100 men toiled at the Bagdad and Chase mines in October, 1903, Stagg let contracts for the construction of 40 spacious cottages, to be painted and “made thoroughly modern.” A 10,000-gallon tank perched on a hill provided water for domestic use and fire-fighting. Telegrams could be sent by telephoning Ludlow. A schoolhouse and 10-stamp mills were later built at the Roosevelt and Bagdad-Chase. A post office named after director J. H. Stedman was established in March, 1904, probably in the company store. By then, the Bagdad employed 50 men, the Chase 25, and the Roosevelt 40.

Stagg believed in efficiency, hard work, and clean living. One writer in early 1903 accused Stagg of being a czar who controlled the camp's water supply, required the company store to sell only to employees, and kept out saloons and gambling. But Stagg later maintained that “the era of a rip-roaring old-time camp is past, and that intoxication should no more be a feature in a mining camp than in any other well-regulated community. . . .” Miners who had been spendthrifts, Stagg said, now had comfortable bank accounts.

Happily, Ludlow was nearby. The start of work on the Tonopah & Tidewater Railroad to the borax and gold fields of Death Valley and Nevada in 1904 transformed Ludlow from a station to a complete town. A school district was organized to serve both communities; Stagg even served briefly as its administrator. Mary (Ma) Preston's store, restaurant, hotel, saloon, and poolroom offered relief to the men chafing under Stagg's restrictions. Shrewd and feisty, she would not hesitate to punch out drunks and rowdies. But to those down on their luck, she would be generous and warm hearted.

The mines settled into a period of steady but unspectacular productivity during 1904. Regular news reports ceased; the post office closed in November, 1907, though the Ludlow & Southern was still making regular daily trips (45 minutes each way!) in 1909. About 40 men were at work in early 1910, when the Bagdad Chase Gold Mining Company sold its operations; the mines, railroad,

and mill in Barstow were allowed to decay. The chief source of copper and gold in San Bernardino County, the mines by then had produced $4,500,000.

The company sold its railroad and mines in October, 1910, to the Pacific Mines Corporation. Pacific Mines was headed by John Hays Hammond, a world- renowned mining engineer. The purchase proved to be a tonic to the camp. The railroad and buildings were repaired and the operations modernized. Air drills replaced hand drills; lanterns and candles gave way to electric lights. The labor force rose from 15 men to 75 in less than a year.

Pacific Mines pulled out in 1916; the mines went into receivership. Yet Stedman would not die. Mining continued into 1917, and everything remained in good condition--the machine shop and roundhouse, electric-power plant, phone line, even the big water tank on the hill. The camp, according to the Barstow *Printer*, was being "kept in a sanitary condition, and contentment is found among the employees . . . ."

Although 1917 may have marked Stedman's last year as a viable settlement, occasional mining continued in a very limited way for decades. The rails of the Ludlow & Southern were pulled out about 1935. Because of the silica in its ores, the property was only one of four gold mines in the state allowed to operate during World War II. The mines finally closed in -1954, having been sunk to 450 feet. The mines had produced $6 million in gold, or half the county's output.

SOURCES: The *Mining & Scientific Press*, Los Angeles *Mining Review*, and Redlands *Citrograph* extensively covered the early years, 1901-1904, and the Barstow *Printer* covered the later years, 1910-1917. David Myrick's *Railroads of Nevada and Eastern California, II* (cited earlier), contains a sumptuously photographed chapter on the railroad and camp.

Also of interest are two features by L. Burr Belden in the San Bernardino *Sun-Telegram*: "Easterners Get $10 Million From Bagdad Chase," Nov. 23,-1952, p, 18, and "Millionaires Had Bonanza Ore in Bagdad Chase," March 27, 1960, p. B-8.

ATOLIA

Five miles south of the gallows frames of Randsburg, weathered buildings speckle a slope of alluvium pockmarked with the cavernous pits of mines. The warm-hued mound called Red Mountain looms over everything.

This is the site of Atolia. For several decades in this century-and especially during World War I--this was the chief center of tungsten mining in the United States.

The origins of this district are not clear. While placering for gold, prospectors had trouble with a white-blue mineral they called “heavy spar,” which would clog pans full of gold. Analysis showed the spar to be scheelite, the main source of tungsten.

Tungsten was a relatively unknown metal just coming into use in the modern world. The element was scarcely known until the 1860's. By the 1890's, tungsten began to replace the fibrous filaments in light bulbs. At the same time, Germany was about to challenge Britain's supremacy as a naval and military power. Tungsten was put into use to toughen the armor plate on Germany's growing naval fleet.

Important deposits of scheelite were found in the Stringer district, a gold area just south of Randsburg. But the biggest strikes were made at the Papoose and Union lodes, near the foot of Red Mountain, in 1904 and 1905. Only yards away was the “spud patch,” an immensely rich ground where small-time miners could dry wash out large nuggets of scheelite. Happily, the Randsburg Railway crossed the district.

Large-scale mining began when two partners, known only as Atkins and De Golia, bought the richest claims in January, 1906, and almost at once began shipping ore to Germany, then Britain. Employing only 30 men, their Atolia Mining Company quickly prospered and began paying dividends within two years. (The firm would eventually come to produce 95 percent of the district's tungsten concentrate.)

"Quite a mining camp” grew up near the claims. The buildings flanked a 100-foot-wide street running east from the railway. Mine superintendent Charley Taylor suggested the “smooth-sounding name” of Atolia--a contraction of the names of the owners. Atolia post office was established in March, 1906, and a school was started about a year later. The Randsburg *Miner* called the settlement “one of the most active little mining camps in this part of the district.”

The mine owners, in the meantime, were tired of shipping their ore to Europe or having it concentrated at Barstow for reshipment. They began putting up a solid, 80x39-foot mill building in 1907. Rising from the building was a makeshift 100-foot flagpole, from which an American flag “was simply awaiting the completion of the mill to be unfurled to the desert breezes.” (Water for the operations had to come 30 miles by tank car from Kramer.)

Despite the approaching summer heat, “the general outlook for that section is very bright.” The Atolia company was hiring. Charlie Koehn, a pioneer of the Randsburg boom, took out $1,350 in tungsten ore in two months--from a gold mine! C. Grant Illingsworth, Randsburg's leading merchant, mined $2,000 in tungsten ore from an 80-foot shaft.

This early boom ended with the panic and depression of October, 1907. The Atolia mines closed on November 1 because, as Atkins explained, "of the impossibility of the firm to get sufficient currency to pay their men during this money stringency. . . ." The boardinghouse closed on Sunday morning, and most of the men left the next night for other camps. A dozen men with families remained, having been promised work for a month. One paper lamented that it "seems too bad that a property so good as the tungsten mines should have to stop and the men scattered simply because of the stringency of the money situation. It is to be hoped it will only.be of short duration."

After a long lull, production finally shot up from 5,000 units in 1908 to 30,000 units in 1909; it remained high for several years. (A unit is 20 pounds of tungsten concentrate.) The Atolia company was turning out nearly 25 percent of the tungsten concentrate in America by 1910, putting the district just behind the mines of Boulder County, Colorado, in domestic production. The company now made plans for an electric-light plant.

Despite the industrialization, Atolia was a homey community. The arrival of the train from Kramer was the event of the day. The whistle blowing far out in the desert signaled adults and children alike. The conductor would toss the children rolled-up daily newspapers--a small chocolate bar tucked inside would assure the delivery of the papers to the parents. That Thanksgiving, the women gave a free dance with refreshments for the 100 miners and families of this "live camp."

Yet prosperity would remain elusive for several years. In early 1911, for example, a recession, slackening demand for tungsten, and labor troubles forced a shutdown of the Atolia Mine and the layoff of 100 workers. Work soon resumed, however, and by December, 40 miners were back at work and the mill was operating on two shifts. The Barstow *Printer* now advocated the formation of a voting precinct for Atolia "so the citizens of this county won't be compelled to go over to Kern County to vote." (Atolia was within walking distance of the county line.) Acting upon a petition, the San Bernardino County supervisors established the precinct in early 1912. Meanwhile, the company installed a modern telephone system in its workings.

After a decade of up-and-down activity, Atolia began to boom again. It was the summer of 1915. The war in Europe had been escalating for a year. A flood of orders for munitions generated a demand for high-speed steels used in cutting tools and rifle barrels. When the British embargoed exports of tungsten ores from "its colonies, buyers scrambled; within months, the price of concentrate briefly topped $50 a unit. In Colorado, the tungsten mines were producing far less ore than expected.

Atolia turned into one of the fastest-growing camps in the West. The Atolia Mining Company put up dozens of large wood-and-canvas tents and frame buildings laid out in a neat grid; the firm's employment rose from 30 in early 1915 to 300 near the end of the year. After the firm started up a second mill on January 1, 1916, the payroll jumped to 400. The population of the town hit 600.

Not even the accidental burning of the mill a few weeks later could dampen the boom. Insurance covered the $40,000 loss. The Atolia company at once started up its original mill and put carpenters and other tradesmen to work round the clock. The new plant, run by 25 electric motors, could turn out 700 units a day. The main shaft of the mine was also electrified.

Now, in early 1916, Atolia was described as “a metropolitan city, even if its tents.” The county supervisors made the district a court township, giving it a justice of the peace and constable. A 40-acre townsite was laid out, and lots “are being sold every day . . . .” A poolroom, stationery-cigar store with a clubroom attached, general store, bakery, and county library branch opened. As spring approached, the nine regular boardinghouses and two restaurants and chop houses were being “rushed to death.” The overflow went to Randsburg by jitney. The Atolia Restaurant Company opened No.2, “and yet the crowds come. . . .” The two eating houses were feeding 300 persons a day. One Atolia mine operator bought a hotel in Randsburg to feed and lodge his workers.

Randsburg certainly benefited from this spillover. Its stores were filled with goods. The Randsburg and Mojave Stage Company was making four trips a day to Mojave. And the *Miner* installed a Linotype.

Because of this crush of business, Atolia was probably the first district in California to benefit from a full range of modern conveniences. Inexpensive electric power from Bishop Creek, telephone and telegraph service, and daily mail deliveries became available. Two domestic water systems replaced the deliveries by railway tank cars. Auto trucks and up to 30 jitneys sped mail, express, ore, and passengers to Johannesburg, Randsburg, Mojave, Kramer, and Rand station, even to Bakersfield and Taft.

By the end of May, 1916, 1,200 men, women, and children were living in 500 dwellings, most of them tent-houses and portable structures. Since families were considered as important as transients in the camp's life, the populace showed a “desire to keep the place decent.” The school, for example, enrolled 51 pupils.

Businesses had sprouted everywhere. They included four general stores, two stationery stores and newsstands, three butcher shops, two lumberyards, three garages, two theaters, three shoemakers, three barber shops, three pool-halls, a drugstore, two doctors, a shooting gallery, an enlarged bowling alley, a blacksmith-machine shop, half a dozen commodious hotels for the transient trade, nine boardinghouses for regular miners, a bathhouse, three produce dealers, a secondhand-furniture store, three ice cream parlors, a sawmill, a sampling and reduction plant, and two weekly newspapers, the *News* and *Tungsten Review*, which apparently were editions of the Barstow or Randsburg papers.

The mines, too, were doing well beyond all expectations. The shaft at the Union, the main property of the Atolia company, approached its ultimate depth of 1,050 feet; its workings would soon total 20,000 feet. With tungsten concentrate averaging nearly $35 a unit, the company produced nearly 109,000 units in 1916.

The boom prices for concentrate infected every level of the community. Several buyers were paying up to $2.50 a pound just for low-grade ore. Stores were paying children to bring in scheelite nuggets. Business posted signs offering

"Cash for High-Grade,” “Groceries for High-Grade,” “Meal Tickets for High-Grade.” In a nearby placer gold district, 100 men were paying $1 a square feet for tungsten leases. The main gulch . along the Atolia-Randsburg road was cut up by “placer workers with every manner of contrivance, both wet and dry, for saving the gold, tungsten, and black-sand concentrates.”

The result of this frenzy was high-grading--the theft of rich ore. Ore vanished from dumps, warehouses, and cars. Two sacks worth $400 were taken in the presence of a careless--or conniving--watchman. Miners with special pockets sewn inside their shirts and pants would stagger under the weight of stolen ore as they got off work.

Tensions ran high. The frequent layoffs by the Atolia Mining Company had already wiped out the regular labor force, especially after the firm began contracting with Italian float diggers. The Italians received $3 a day to dig up a product worth $6 a pound in the East. When local ore buyers combined to push down prices, independent miners would merely rebury their treasures--placer scheelite--to await better offers.

The mine operators tried to bring some order out of this chaos. To prevent high-grading, the Atolia Mining Company installed rooms where its miners had to change their clothes under guard. When civil authorities arrested several Italians--the bulk of the force--on suspicion of high-grading, the company fired 100 Italian workers suspected of theft, much to the delight of many Americans. But the losses continued, as did the arrests. Meanwhile, small loads of ore were sometimes sent out by express--at $190 a ton.

But the boom soon subsided. Atolia settled down to a more workaday way of life. The population dipped to about 900, and the major events of 1917 included a stereopticon lecture by a minister and a Red Cross parade that snaked through all the mining camps. Though the price of concentrates dropped to $16 a unit, America's declaration of war and mobilization pushed production to a peak of 116,000 units in 1917. The school enrollment, too, peaked at 71.

The Armistice of November, 1918, marked the end of the second boom. The school plunged to 12 pupils. The Atolia company's output dropped from an already-low 61,000 units in 1918 to a mere 5,000 units in 1919. Then the mine and mill closed for three years. Blaming cheap imported tungsten for the decline, a correspondent for the Barstow *Printer* in February, 1920, called Atolia "a deserted mining camp" with only 79 men, women, and children. The town had only one telephone and no telegraph service. Mail arrived only three times a week. The post office closed in August, 1922.

The discovery of a large deposit of silver three miles north of Atolia in early 1919, on ground trodden upon by tungsten prospectors for 15 years, injected some life into the region's economy. A group of camps under the name of Osdick (soon renamed Red Mountain) more than doubled the Atolia school's sickly enrollment (to 30); the school board even opened a campus at Osdick.

Then the Atolia Mining Company reopened its mines in 1923. Production soon reached 27,000 units, and the post office reopened in November, 1927.

But as a town, Atolia was finished. The output of the mines began to slip at once. Red Mountain, however, was thriving. The Atolia school closed about 1930; the branch library closed a few years later. Though 250 men leased Atolia company claims during a flurry in 1937, declining tungsten prices cut the number of independent miners to 40. Although the ore bodies were not exhausted, a federal report explained, "the easily discovered and richest ore bodies have probably been mined. . . ." In fact, the revival of the mines and mill during World War II failed to bring long-term prosperity: in 1944, the leading mine shut down in February followed by the post office in July.

SOURCES: Considering the growing importance of tungsten, the earliest discoveries at Atolia were poorly covered. Occasional articles appeared in the Los Angeles *Mining Review* and other periodicals. But on the 1915-1918 boom, unusually detailed news items and features appeared in the *Mining & Scientific Press*, Randsburg *Miner*, Barstow *Printer*, Mojave *Press,* and Los Angeles *Times*. The Mojave *Record* and the *Arizona Mining Journal* (Phoenix) sporadically covered the rally and final decline.

The operations were put in perspective by the California Mining Bureau in *Reports* 15 (1915-1916), pp. 830-839, and 17 (1920), pp. 370-373; by J.W. Glasgow, traveling freight agent for the Santa Fé Railway, in "Tungsten Mining At Atolia, California," *Mining & Oil Bulletin* (Los Angeles), January, 1916, pp, 31-32; and by two federal geologists, D.M. Lemmon and J.V.N. Dorr II, *Tungsten Deposits of the Atolia District, San Bernardino and Kern Counties, California* (U.S.G.S. Bulletin 922-H, 1940). The last publication contains excellent maps and the production record of the Atolia Mining Company.

Two histories of the Randsburg district offer a few glimpses into life at Atolia: Roberta Starry's *Gold Gamble* (China Lake, 1974) and Marcia Rittenhouse Wynn, *Desert Bonanza* (2nd ed., Glendale, 1963). Wynn's father owned an important mine near Randsburg.

THE VONTRIGGER CAMPS

IN DECEMBER, 1906, a writer for the Redlands *Citrograph* took heart that at least one mining district, Vontrigger, had "escaped the blight of the fake promoter. Its name has not been connected with worse than questionable mining enterprises. . . ."

The writer was only partly right. The Vontrigger district operated in the twilight between honest development and shady promotion.

After some fitful starts during the 1890's, mines were being developed throughout the Vontrigger district by 1904. About six miles north of Blake station (Goffs), the Pentagon Mining Company founded a "permanent" camp, consisting of an assay office, a bunkhouse, and a shafthouse. Meanwhile, to develop the California Mine, nine miles north of Blake, in the Vontrigger Hills, Albert H. Cram organized the California Gold and Copper Company and began sinking three deep shafts and installing modern mine machinery.

The mine, however, was known less for its ore than for its owner, Cram. Cram was the most prominent mining-stock promoter in Riverside. He would develop a claim just enough to hold the interest of prospective investors. Cram had 25 men at work by the summer of 1906. Strikes being made elsewhere in the district, according to a report in late 1906, proved that Vontrigger was "among the most promising new copper fields of the Southwest."

The mine site was developed into a large camp in 1907. Cram built a large barn, store carrying an ample stock of general merchandise, a reservoir, and a nine-mile pipeline laid to Hackberry Springs; water began flowing on July 4. About 40 men were employed. Then, in October, Cram began installing a leaching plant. The operation turned out 5,400 pounds of copper that year.

A shipping point, meanwhile, was established on the California Eastern Railway, less than two miles away. Vontrigger post office was established there in May, 1907. By the end of 1908, the station comprised a water tank, loading platform, siding, and a combination store-post office-restaurant. A monument made of copper ore greeted newcomers.

Development at the mine probably slowed then, perhaps to give Cram more time to sell stock. He resumed his promotional campaign in early 1909. In June, the camp contained 20 buildings, including the store, a boardinghouse, a rooming house-hotel, and cabins.

Would-be investors could gaze upon a magnificent operation at the end of 1909. The main shaft had reached 317 feet, 17,000 gallons of water a day were flowing through the pipeline, and Cram was touting a newly developed "electrochemical" system that extracted gold and copper from the area. A 96x100-foot building housed a well-equipped leaching plant.

Never one to quit, Cram kicked off a final promotional campaign in 1911. The electrochemical plant was leaching out copper ore "on a commercial scale," and a fully equipped roller mill, with cyanide tanks, started up about June. Ever on the move, Cram several times visited Goldfield,

Nevada to buy equipment, even showing off an 18-inch slab of copper produced at his property. In fact, his operation produced 4,000 pounds of copper that year.

Cram's activities probably lessened after 1911. At Vontrigger station, the post office closed in October, 1913. All that remained in 1917 was a siding.

Another Vontrigger grew up at the newly discovered Getchell Mine, a few miles to the west, in the Hackberry Mountains. By May. 1925, the camp comprised a store, restaurant, cold-drink resort, and 30 tents, with others rising “every other day.” A 30-room hotel was reportedly under construction. Work at the Getchell probably halted about then, although the mine experienced revivals for many years.

SOURCES: Larry Vredenburgh, in *Desert Fever*, sorts out the various operations. D.F. Hewett listed the output of the California Gold & Copper Company's mine in his work on the Ivanpah Quadrangle (already cited). The many mines in the district, including Cram's, were covered in the Redlands *Citrograph*, 1906-1908, and in the Los Angeles *Mining Review*, 1906-1911. ,

THE CIMA DISTRICT

Standard Camp, Toegl city, Camp Dawson

Even fairly small mines in the region around Cima could support substantial camps. Meadesville and Camp Peking are only memories, but several small settlements achieved some prominence.

The **Standard No. 1 Mine**, about 11 miles north of Cima, on Striped Mountain, fortunately produced ore of honest investors rather than the hot air of promoters. In the summer of 1905, the Standard Mines Company of Los Angeles revived the old Excelsior Mine, began sinking a deep shaft, installed modern equipment, and erected a store and other buildings. The company shipped its first ore in early 1906. Though a suit by stockholders forced the Standard to curtail operations in late 1906, the property still managed to produce a phenomenal 455,000 pounds of copper and 9,360 ounces of silver by the end of the year. When full operations resumed in the summer of 1907, the shaft had reached 340feet. By May, 1908.,the camp included a bunkhouse and boardinghouse large enough to take care of 100 men, a small store, and an assay office. But production soon declined. The mine shut down in 1910. A limited revival took place during World War I.

Toeglcity, a tiny camp, sprang up after Charles Toegl began reworking an old group of silver claims a few miles north of Cima in mid-1905. He named his claims the Teutonia group. Toegl and a Pennsylvania investor organized a company, which bought other properties, built wagon roads, and put up the camp at the Teutonia. In October, 1907, the settlement included a general store and a blacksmith shop, which also served nearby camps. Homes “of a better class” were planned for company officials. All this development was well founded: the Teutonia produced 112 tons of ore carrying 100 to 150 ounces of silver a ton.

The twin Death Valley and Arcalvada mines, three miles east of Cima, in the Mid Hills, stood out as a legitimate mining operation in an era of speculation.

Rich silver-lead-gold ore was found there in mid-1906; a settlement named **Camp Dawson** emerged by September, when the Death Valley Mine shipped its first ore. The work force in the district stabilized by 1907: 45 in March, 52 or more in November. In June, frame structures began replacing the tents that made up the camp's homes; the Arcalvada Mine had a shaft house, engine house, and 41-room bunkhouse; and the Death Valley Mine owned an “artistically finished,” seven-room residence--touted as the only completely furnished bungalow on the desert--which was used by visitors and the superintendents and managers of the Death Valley and Arcalvada mines. (The firms merged in September.) The newly formed company produced a record 74,600 ounces of silver in 1907. The output of the Death Valley Mine declined after litigation--and perhaps the prevailing depression--curtailed work in mid-1908.

The output never returned to the earlier levels, though the mine operated on and off for decades. The Death Valley, for example, employed 40 miners and 20 teams in 1912. The plant and a new mill burned in 1927. Yet as late as 1930, the camp could feed and house 100 men and contained a six-room house and a concentrating plant. The bunkhouse was torn down a few years later and the lumber used to build a Veterans of Foreign Wars hall at Clark Mountain station.

SOURCES: The Los Angeles (American) *Mining Review* reported on the mining operations and their camps, 1905-1912. In his work on the Ivanpah Quadrangle (cited earlier), D.F. Hewett profiled the leading mines and gave their records of production. In *Desert Fever*, Larry Vredenburgh describes each operation.

THE CRACKERJACK DISTRICT

Crackerjack, Avawatz, and Copper City (II)

One of the more mysterious regions of the Mojave Desert is the Avawatz range, a 6,500-foot series of mountains bisected by one of the earliest roads from Barstow to Death Valley. Johnny Moss, the mountain-man discoverer of rich ore deposits in the West, reportedly found silver in the Avawatz Mountains about 1870. Though the San Bernardino *Argus* said that Moss's strikes were "yielding the richest ores on the coast," in truth only a trickle of ore came out of the district for decades.

The Avawatz district didn't amount to much until 1906. Discoveries of gold made earlier in the year brought a rush of miners from the camps of southern Nevada in the fall. They organized the Crackerjack Mining District, 30 X 30 miles. After Francis Marion (Borax) Smith ordered his Tonopah & Tidewater Railroad to build a depot at Silver Lake, 25 miles to the east, auto stages began running to Crackerjack, Five Point, and Amos Brothers camps. As the Las Vegas *Age* would come to predict, "the Tonopah & Tidewater has so improved the situation that the Crackerjack country is entering on a new era of development."

The Crackerjack district soon came to support three tent-and-shack camps: Crackerjack, Avawatz, and Copper City. Built at an elevation of about 4,000 feet, the settlements clustered within a mile or two of one another just south of Avawatz Pass and Cave Springs.

Crackerjack, the original camp, was promoted almost as a fantasy land. Flamboyant ads in the Los Angeles dailies offered "choice lots for sale" in a district "destined to be the richest camp of old." A post office was established in February, 1907; a weekly newspaper, the Crackerjack News, began publication a few months later. -

But newcomers were bound to be disappointed. Though miners received a good wage, $4 a day, and though Chinese were kept out, the camp remained little more than a cluster of tents. Only two mines were active, and those employed few men. Even the boosters admitted the need for a well, for water had to be hauled in seven miles. When two toughs seized Drinkwater Springs and demanded $1 a barrel, members of a well-armed gang from Crackerjack appeared and, with threats of violence, filled their barrels and left. The weather was especially harsh. Five feet of snow reportedly fell at Crackerjack, presumably during the winter of 1906-1907. The miners spent a wretched season, either in mine tunnels or leaving.

Rivaling Crackerjack was Avawatz. Promoter H.E. Needham platted the camp four miles from Cave Springs in May, 1907. It offered "suitable" hotel accommodations and received a semiweekly freight service from Silver Lake. The Turner general store, which housed the Crackerjack post office, was moved to Avawatz in October, 1907, for "outfits are coming into this place daily, from which point they will conveniently prospect throughout the surrounding territory. . . ." Supplies and mail were arriving regularly from Silver Lake. The Crackerjack post office was finally discontinued in August, 1908, and its named changed to Avawatz.

A mile and a half from Avawatz stood Copper City, not to be confused with a camp of the same name northwest of Barstow. This Copper City was the child of promoter C. H. Southworth, who

laid out a "promising young town" about February, 1907, and advertised: "If you have failed to make good in Tonopah, Goldfield and Bullfrog [Nevada], try a brand new district."

Southworth boasted: "The Crackerjack district has richer copper showings than Greenwater [a Death Valley boom] and we do not hesitate to tell you that Copper City will be on the map for years to come. It cannot help but grow when great ledges of copper are exposed. . . ." Surrounding the townsite were good copper, lead, and gold veins. One shaft went down 80 feet. Even F.M. (Shady) Myrick, a noted gem prospector, had claims at Copper City (which he sold). A correspondent reported that all "prospectors are hard at work and are full of enthusiasm."

Despite the need for a deep well, Copper City did show some growth. In March, 1907, the townsite contained a good lodging house and an up-to-date saloon serving 100 residents--or so it was claimed. A general store and restaurant were due to open soon.

If the district had a leading mine, it was the Crackerjack-Bonanza, 12 miles southwest of Silver Lake and about 20 miles southeast of Crackerjack. Actually, the mine lay just outside the district proper, in Red Pass, along the old Mormon trail. The owners, a company composed of energetic businessmen from Los Angeles, sank a double-compartment shaft 175 feet and drove tunnels into rich, easy to- mill ore. The settlement there, called Bonanza Camp, included a well, boardinghouse, and other buildings, and later a mill. An auto stage connected Bonanza and other camps with Silver Lake.

Eighteen miles west of Crackerjack lay the Desert King Mine, a secondary producer. Little is known of this mine. A five-stamp mill had apparently been built as early as 1903. (Major work probably did not take place until 1911, when the district was in decline. A few years later, the camp included a cabin, blacksmith shop, and two-stamp mill near Desert King Spring.)

The mines were noted for their erratic output. The Crackerjack-Bonanza was producing rich ore at a "steadily increasing rate" in June, 1907. The property soon made its first shipment--three carloads of ore averaging $100 a ton--followed by several shipments later in the year. Closer to the camps, the Avawatz Crown, which had a 2oo-foot shaft, made a small shipment in May, 1909; meanwhile, 25 men worked at the Blue Bucket. But that was about all the activity.

It was surprising that the district survived more than a year. A nationwide depression that began in late 1907 dried up funds for investment well into 1909. The Crackerjack News was moved to Silver Lake early in 1908 and was re-established as the Miner. The major mining journals rarely mentioned the district.

Except for occasional rich pockets, apparently most of the ore was too poor to sustain a district. The construction of the T&T--and the lower freight rates-was considered a boon to the mines. Though the T&T surveyed a 12-mile branch to an iron deposit west of Silver Lake in 1908, tracks were never laid. No mine in the district proper ever put up a mill. Avawatz post office closed in December, 1910. The district reported minor activity through 1911, then faded away.

SOURCES: Occasional articles and advertisements appeared in the *Mining & Scientific Press*, Los Angeles *Mining Review*, Las Vegas *Age*, Needles *Eye*, and Rhyolite *Herald*, 1906-1909. An interesting, though somewhat general, reminiscence by rancher Dix Van Dyke has been reprinted in Patricia Keeling, ed., *Once Upon a Desert* (cited earlier). *Desert Fever*, by Larry Vredenburgh and others, offers a good overview. L. Burr Belden attributed the decline to the 1907 depression:

"Town Born Only A Few Months Prior to Panic of 1907," San Bernardino *Sun-Telegram*, Jan. 24, 1960, p, B-8.

SILVER LAKE

". . . The town of Silver Lake was mirrored in blue water as shining and as heavenly as the vision which was lost. The houses had weathered a deep orange and burned in the sun. The white tank set upon stilts above the well was dazzling to look at. Trees grew beside the glistening dream-water. It was brighter than an-y town or lake could possibly be; it was magical."

So wrote the Eastern author Edna Brush Perkins. On a tour through the deserts of California about 1920, she considered Silver Lake the essence of the Mojave Desert. Silver Lake was slumbering then, but only a decade earlier, it had throbbed with life.

The construction of the Tonopah & Tidewater Railroad--the T&T--north from Ludlow gave rise to the town. The railroad project spurred work at the Riggs silver, to the east, and reawakened interest in the Avawatz Mountains, to the west.

The first signs of a settlement appeared when T.T. Brown and Oscar Hibbard opened a store 18 miles south of the end-of-track, apparently at the edge of the shimmering clay bed of Silver Lake, in October, 1906. The Las Vegas Age saw the "prospect of a very lively camp being started there . . . ." With mining excitements making news with feverish frequency, a small town began to emerge a few months later. Francis Marion (Borax) Smith, the founder of the T&T, ordered the construction of a depot, and stagecoaches began running to the mining camps in the Avawatz range, notably to the new camp of Crackerjack, 25 miles west. Charging $15, the Crackerjack Auto Transit Company also began making daily runs to Silver Lake in earl-y 1907.

A post office was established in March, 1907. Said to be "in progress of building," Silver Lake embraced a "creditable depot" with outside telephone and telegraph connections, two restaurants, both run boy boomers from Nevada, a store or two, and a liver-y stable. Rowan and Courtwright, who operated the stable and corral, provided free water to "man and beast" and ran a stage that could reach Crackerjack in five hours. A few months later, the San Bernardino Count-y supervisors declared Silver Lake a town (platted with a grandiose 63 blocks), voting precinct, and court township. Becoming a court township entitled Silver Lake to a justice of the peace and constable and perhaps a deputy sheriff.

During the boom -years, especially 1907 and 1908, the Rose-Heath-Fisk store was central to the region's growth. The store supplied the Crackerjack district with general merchandise, hardware, lumber, feed, and ha-y; the store grossed $150,000 in one -year alone. One of the store's owners, Oliver J. Fisk, was a pioneer of several mining booms in the Mojave, served as Silver Lake's first justice of the peace, and helped plat the townsite.

Excitements at Riggs, Avawatz, Bonanza, Harper, Amos Brothers, Five Point, and 17 Mile camps kept business humming for several -years. The owner of the Crackerjack News moved to Silver Lake in earl-y 1908 and founded the weekly Miner; it apparently lasted only a few months. About 65 men were registered to vote in the Silver Lake and Avawatz areas in late 1908. The T&T, meanwhile, surveyed a 12-mile branch to iron deposits at the foot of the Avawatz range. (The spur was never built.) The area held 135 persons in 1910.

About the only outbreak of violence occurred when a section foreman was stabbed to death in 1910 while trying to break up a fight.

Silver lake now went into a slumber, awakened only by the noises of occasional mining. Arriving from Los Angeles, Gustave Brauer and his family bought the Heath store in early 1911, then snapped up the J.A. Thomas store a few months later.

Though pioneer motorists enjoyed racing over the bed of the dry lake, it could occasionally flood. When downpours filled the shallow basin in January, 1916, the T&T had to reroute its trains through Las Vegas--a 170-mile detour-and then rebuilt eight or nine miles of roadbed on the east side of the lake. Composed of simple frame buildings, the town was easily moved to the higher ground. When an artist from San Francisco boasted of the progress that his city had made since the earthquake and fire of 1906, Brauer could only chuckle: "Well, Silver Lake ain't so bad. We pulled her up out of the water once already."

The population of the voting precinct dwindled to 35 in 1920, but to Perkins and a companion, Silver Lake stood out as "a little oasis of life in the solitude." The sun was setting when they spied eight or 10 "portable houses, bright orange beside the purple darkness of the baked-mud lake. . . ." Greeting them were the Brauers, "a kindly German couple" who owned the store, sold them gasoline, and boarded the few travelers bound for the mines. A list of voters nailed to the door of the store contained only seven names, lured by the town's watering trough, burros wandered among the little houses. A 6x2-foot patch of grass carefully tended by the Brauers stood out as the only green thing in town.

Not even the long hoot of the T&T's trains in the still air disturbed the torpor of the inhabitants. ". . . In about fifteen minutes an ungainly line of freight-cars with a passenger-coach or two in the rear comes swaying along. Mrs. Brauer gathers up the dishes leisurely. She hopes they have brought the meat. The last time she had boarders they didn't bring any meat for two weeks. If they bring it she promises to make you a fine German dinner. She never goes out to look at the train. Nobody does, except you, who stand in the doorway and wonder at it. . . ."

Silver Lake faded away like a mirage. Only a station agent and section crew remained in 1927. The construction of the highway from Los Angeles to Salt Lake City bypassed the town in favor of Baker, eight miles south; a paved branch was built along the T&T tracks to Death Valley. When borax deposits were developed in Kern County, the minas near Death Valley--the lifeblood of the T&T--were abandoned in 1933, and the railroad curtailed its operations. Silver lake's post office closed in February, 1933, and was moved to Baker. The few buildings left housed the station agent and section crew until the T&T was abandoned in 1940.

SOURCES: David Myrick has a brief but beautifully photographed description in his *Railroads of Nevada and Eastern California, II* (cited earlier). Occasional items appeared in the *Mining &Scientific Press*, Las Vegas *Age*, Searchlight *Bulletin*, and Barstow *Printer*. Edna Brush Perkins eloquently described the town in *The White Heart of Mojave* (New York, 1922).

GOLD PARK AND PINON CAMPS

Several small but well-developed camps grew up at the mines south of Twentynine Palms oasis.

About 11 miles south of Twentynine Palms lay the Gold Park district, just inside San Bernardino County. When George Wharton James, the inveterate traveler, rode into the camp at the **Gold Park Mine** about 1906, it was temporarily deserted--almost. Its caretaker, known only as Sullivan, was awaiting the arrival of wagons bringing men and supplies. Sullivan made James a welcome guest: ", . . When night comes and our pleasant fire lights up the surrounding gloom he brings forth from some hidden recess a violin, from which he plays a number of popular pieces with both skill and precision. . . ."

The Twentynine Palms region soon began to stir. Of the 10 mines in 1907, the Gold Park company employed the most--18 men. Mines were being built up, mills were starting up. The miners at the oasis sorely wanted a store and a post office.

Most of the mining took place in the Gold Park district, where the Gold Park and Tip Top properties adjoined. The Gold Park was fully equipped with modern mining machinery; its camp included buildings for the man, a blacksmith shop, and a laboratory-assay office. A post office operated from January to July, 1908. .

Far to the south--and a long day's journey for James--stood the camp at the Piñon Mine, where James spent the night: "... There .are a few cabins and a stamp mill situated in a cozy nook in the mountains, and--pleasant fact--the homes of families, where the voices of women and children are heard."

By early 1908, mills were operating at the Piñon, Hexahedron ("Hexie"), and Lost Horse mines. A shortage of water, however, hindered operations; only the Lost Horse would leave a recorded output: $350,000.

SOURCES: The observations of George Wharton James appear in his book *The Wonders of the Colorado Desert* (cited earlier). Sporadic, but detailed, news stories on mining appeared in the Los Angeles (American) *Mining Review*, 1907-1908.

HART

The fall of 1907 was a poor time for the mining industry. A depression was "raking the nation's banks and squeezing investors. Especially hard hit was Goldfield, Nevada, where one bank had failed, the .mining companies were broke, and the miners were on strike.

It remained for three prospectors from Goldfield--James Hart and the brothers Bert and Clark Hitt--to recognize the possibilities of a rhyolite formation that resembled the gold-bearing outcrops of western Nevada. In the rugged Castle Mountains, the trio found pockets of rich ore and refiled on lapsed claims during the last weeks of 1907. Their claims became the Oro Belle and Big Chief mines; pieces of ore from the latter “fairly glistened with gold.”

Tipped off by the discoverers, George A. Foster, a young Goldfield broker, snapped up a group of claims and laid out a townsite in a basin below the properties. He named the site Hart. (A siding and freight house on the Barnwell & Searchlight Railroad, about four miles north, would soon be named Hitt.) Foster later explained that too “much credit cannot be given the original discoverers. They certainly have given the mining world another big camp and myself and friends are indebted to them for the advance information which let us in on the ground floor.”

The news of the strike electrified the desert regions as early as January, 190B. The Needles Eye reported that many “people have left Needles and Searchlight in automobiles, buggies, and wagons, and on bicycles and burros.” “And once more the magic name of Goldfield!” exclaimed the Searchlight *Bulletin*. “So associated with sudden wealth and riches has the name Goldfield become that it is the open sesame of the up to date prospector.”

A town began to emerge only a week later. Half a dozen tents were on the ground, and more were rising. Two Searchlight stores opened branches.

M. L. Cook and Stone & Brown opened surveyors' offices. J.B. Flanagan, the publisher of the Searchlight News, began issuing a small, four-page weekly, the Hart Enterprise. Telephone line5"W8re being strung to the Western Union office at .Barnwell. Though wood was scarce, water was being hauled from Barnwell; it sold for $8 a barrel. A petition sought the establishment of a post office and a mail route to the railroad.

In the meantime, the Foster brothers were vigorously promoting the new townsite. They hired M.L. Cook to make a survey, and “indications are that a lively camp will speedily materialize,” one paper wrote. Town lots were put on sale on January 14.

But “blinding storms of rain, sleet and snow” failed to dampen sales or the spirits of the 100 or more men at the site. At $25 a lot, sales were brisk: 60 lots were sold in one day; one party even bought 20. A week later, when lots were selling for $150, the Enterprise commented that “the camp has every indication of permanency.”

Visitors began to pour in, at first from Needles, Searchlight, and Goldfield, then from San Francisco and Denver. Most got off the Barnwell & Searchlight at Burnt Stump station, where a stage would take them the few miles to Hart. From the Salt Lake railroad (the present Union Pacific), passengers would arrive by auto stage from Leastalk (later renamed Ivanpah). Travelers could usually be accommodated at lodging tents and restaurants. But H.A. Perkins, the publisher of

the *Bulletin*, advised that "the foresighted will endeavor to pack along a pair of blankets [to] insure comfort in stormy weather. . . ."

One woman confessed to having mixed feelings about Hart. "Well, at first the place gave me the creeps. My first impression when I saw all those white tents in the distance was that I was approaching a graveyard. Nor could I throw off this impression for some time--in fact not until the next day when I saw ever so much gold panned and had bought a lot. Then the life and bustle wakened me up and I was delighted with all I saw. I had a fine time and want to go to Hart to live. I think it is going to be a lovely camp."

Newcomers like her continued to swell the population. The *Enterprise* reported at the end of January that one hundred "tents are scattered about, and the number is fast increasing. Where two weeks ago the eye beheld nothing but joshuas and cacti the mountain side [teems] with life and progress."

While the district awaited the arrival of its first lumber (January 31), tents lined the main street for half a mile; other tents spilled onto side streets. Housed in them were an estimated 400 persons, several mining engineers and building contractors, and two dozen businesses.

A town began to emerge from the cocoon of a camp. During a break in the bad weather in early March, Perkins made an easy one-hour drive to Hart and found an attractively placed settlement. "One drives up the main street and finds it quite well filled for a distance of three city blocks with alternating tents and small frame structures. A closer observation will show some very substantial one-story buildings. For a two months-old it makes a remarkable showing."

Among the more conspicuous businesses lining the main street were the Northern Club, owned by Gus Hamstadt of Nipton; the Smith, McCarthy & Bradley hardware store; the general stores of C.L. Buckler, N.P. Funk, and the Brown-Gosnev Company: several lodging houses; and Mesmer's bakery-restaurant. Grading was under was on the 38x60-foot Norton House. Meanwhile, a four-mile water line from Malapais Springs was completed; water sold for $10 a barrel.

The mines were also doing well. A hard 15-minute climb brought Perkins to the Hart and Hitt property, the Oro Belle. Hitt "extended every courtesy" in showing Perkins a 60-foot tunnel with veins assaying up to $20 a ton in gold. Up another steep hill was the 60-foot tunnel of the Big Chief Mine, owned by the Foster company. Lying near the mine were four 100-pound sacks of are worth $2 a pound.

All that spring and summer, Hart matured into a full-fledged mining town. After the introduction of daily mail deliveries, a post office opened in late April. A Searchlight developer brought in a seven-passenger Thomas Flyer and began carrying people, beer, and ice to Hart and EI Dorado Canyon, Nevada. A crew he employed put the 20-mile road to Hart in "fine shape for fast running."

In Searchlight, Flanagan closed the *News* and moved its plant to the office of the Hart *Enterprise.* And a banquet and ball marked the opening of the town's only two-story building, the Norton House: its furnishings were "first class." : A second two-story hotel, the Martin House, opened in July.

Hart's estimated 400 residents hardly needed to leave their homes. The business district that summer included the two hotels and a one-story rooming house, two general stores, a bookstore, a

real-estate office, a candy store, two lumberyards, a bakery, and eight saloons. The utilities embraced the water line, the post office, telephone and telegraph service, and stage and auto lines to Searchlight and Hitt.

Hart had its human side, too. When the first child-was born in ·camp, its parents were promised a loving cup made of locally mined gold. The nearest school, however, was at Barnwell. The children of the Snorf family would walk to Barnwell on Sunday nights, set up housekeeping in an abandoned cabin, and walk back home on Friday afternoons. On a grimmer note, Hart had a cemetery that would eventually have five graves.

Helping the boom along was the *Enterprise*. Flanagan, its founder, was apparently hard pressed by the nationwide depression and by the rival Searchlight *Bulletin*, a newsy sheet of six pages. When Flanagan closed his weekly *News* in April, an agent for the building's owners attached the loaded plant for back rent. It cost Flanagan $110 to free his equipment, and move it to Hart.

Hart could have no better booster than Flanagan. As early as January, he was crowing that "Hart is destined to become one of the largest producers of gold in the United 'States. . . ." When the *Enterprise* advised excursionists to "enjoy the fresh, balmy breezes of the mountains. If the *Bulletin* scoffed: ". . . Unfortunately, the oldest inhabitant cannot recall a more disagreeable day than that which greeted the visitors, and the 'fresh, balmy breezes' were young tornadoes laden with blinding dust. . . ."

Despite its boosterish tone, the *Enterprise* tended to play its mining news straight. Mining journals in San Francisco, Los Angeles, New York, and Chicago quoted the paper often.

But all this growth strained the fabric of an easygoing frontier society. The *Bulletin* complained in January: "Six-shooters are much in evidence, and it will not be surprising if leaden messages are exchanged. Many sharp practices are reported in the matter of making locations which may result in trouble." The next month, three Searchlight men contested with the Foster brothers the ownership of an area near the townsite. But until certain matters were settled, the San Bernardino County supervisors refused to establish a 'court township, which would entitle Hart to a justice of the peace and constable.

Such chaos could not be tolerated. Hart organized a form of provisional government. To "encourage legitimate mining," the leading citizens formed a Business Men's League, which limited the sale of liquor and enforced police and fire regulations. Hart in fact was one of the few mining camps in California to maintain a volunteer fire department. The league in turn formed a law-and-order committee "to assist in the maintenance of a quiet camp." Whenever a gambler, tough, or wildcat promoter arrived, the committee would advise him, "in language that he does not hesitate to heed," to leave on the next stage.

A few well-developed claims supported the district. The Oro Belle, owned by Hart and Hitt, had a 1,000-foot tunnel, a 200-foot shaft, and extensive workings. The Big Chief, owned by Foster, had a shaft of several hundred feet and the district's only mill. In third place was the Hart Consolidated, owned in part by Harry S. McCallum, the town's leading spirit, who headed the Business Men's League. The many leases these men granted added considerably to the district's output. In fact, one lease-holder in late June shipped the area's first ore, a test run of undisclosed value processed by a mill in Searchlight.

Representing most mine workers was the Hart Miners' Union, a branch of the Western Federation of Miners. The union was organized during early 1908 and by July 1 counted 44 members, a peak. During the most productive years, 1908 and 1909, laborers and surface workers generally received a comfortable $4 a day, and shaft workers received $4.50. Carpenters were paid a princely $6.

Milling turned out to be the main problem at the mines. In May, a 10-stamp mill bought by Hart, Hitt, and Foster arrived from Goldfield and was installed near the Big Chief Mine. But the heavy machinery shook apart, the poorly laid foundation. Despite modifications, the mill did not start up again until November. A Searchlight mill ended up processing most of Hart's best ore. Shipping from Hart to Searchlight cost $3 a ton.

Though Hart's mines were most active through 1909, the *Enterprise* reported more development work than production. Though many smaller discoveries were made, the veins at the Big Chief and the Oro Belle remained narrow and broken; the amount of their high-grade ore was limited. In November, 1909, the *Enterprise* suspended publication. (Flanagan was seen again as the publisher of weeklies in Parker, Arizona, and Blythe, California.) And a few months later, in early 1910, the census taken counted only 40 residents in the area.

Then, in January, 1911, a fire that had started behind the Messmer building destroyed half the "little town," including the office of the Hart Townsite Company, Messmer's·storeroom, Martin's poolroom, and the Ames store--all abandoned. The only occupied building hit by the fire was Milton Maundy's store, which contained general merchandise and the post office.

Still, Hart would not die easily. A month after the fire, Maundy opened a restocked store across the street. George Foster still attended to townsite business. And the Oro Belle's manager, W. B. Andrews, brought in several carloads of supplies, lumber, and drilling equipment. Andrews planned to drill for water to use in a proposed mill. The *Bulletin* rejoiced that prospects looked favorable for what it still called "the town of Hart."

Andrews was making steady progress by November. The water line was ready, and Andrews was getting estimates for the construction of a mill. Expected to cost $45,000, the plant would be an improved tube mill designed to recover 96 percent of the gold and silver in the Oro Belle's ore.

After intermittent production, the Oro Belle and Big Chief suspended work in 1913. The miners' union disbanded a year later. A Tonopah, Nevada, firm worked the Oro Belle for a while in 1915; the post office closed that December. The rail to Barnwell and Searchlight, in the meantime, steadily cut back service.

A surveyor for the Government Land Office found a ghostly town in early 1919 (spelling kept in the original): "The now deserted town of Hart gives evidence of a once thriving and prosperous mining town, evidenced by numerous buildings, consisting of three saloons, with furniture and bar intact, a 10 stamp mill, hotels, restaurants, laundry, printing office and numerous dwelling structures. The condition of the town bears witness to the fact that it was deserted in a hurry, probably at the termination of the gold excitement in this vicinity. . . ."

SOURCES: The boom and its decline was fully reported in the *Mining & Scientific Press*, Los Angeles *Mining Review*, Searchlight *Bulletin*, and to a lesser extent the Needles *Eye,* 1908-1913. Hewett described the mines in his report on the Ivanpah Quadrangle (already cited). Interviewing

a former schoolboy (John Snorf, who died in 1985), L. Burr Belden wrote a concise history in the San Bernardino *Sun-Telegram*: "Hart, Gold Camp On Nevada Line, Folded in 1918," Sept. 30, 1956. Also of interest is Ronald Dean Miller, *Mines of the Mojave* (Glendale, 1976).

THE LANFAIR VALLEY

Lanfair, Ledge (Maruba), Dunbar

BY 1910, MINING MEN could only wonder about the prospects in the eastern Mojave Desert. First Ivanpah and Vanderbilt, then Copper World and Barnwell, finally Hart--all had failed to last. The rails of the California Eastern Railway were running through an empty land.

The irony was that conditions outside the region were favorable. The depression of the 1890's had run its course, crop and metal prices were rising, and the U.S. government was opening more land to homesteading.

One likely site for homesteading was the brushy plateau between Goffs and Barnwell, a basin 20 miles long and 10 to 15 miles wide. Cattle owned by the Rock Springs Land & Cattle Company, the second-largest spread in California, fattened themselves on the lush grasses. To the north, small stands of piñon and juniper grew in the New York Mountains. To the south, in the Hackberry Hills, Piute and Vontrigger Springs abundantly supplied ranchers, farmers, and miners. For years, the Searchlight *Bulletin* noted, “people have had their eyes on this inviting looking section. . . .” And to one later arrival, the vast fields of Joshua trees, Spanish bayonet, blooming cactus, mesquite, and greasewood (creosote) made “a never-to-be-forgotten panorama. The air was so clean and crisp it made us glad just to be able to breathe it.”

One of those who took an interest in the basin was Ernest L. Lanfair, a Searchlight merchant. Lanfair had mined in the Hackberry Hills in 1907, when homesteaders were beginning to settle along the state line. It was believed that wheat could be raised with as little as four inches of rain a year, and “with up to- date methods there is no reason why dry ranching cannot be carried on successfully in this section.”

Then Congress passed the Enlarged Homestead Act, which led to an unprecedented rush to file claims for government land.

Sinking a deep test well, Lanfair created the nucleus of a colony about 17 miles north of Goffs in late 1910. Lanfair's project was at first said to be “fast assuming large proportions.” But the *Bulletin* had to caution that overblown reports of a land rush and bumper crops “give strangers a wrong impression and sometimes work an injury . . . .” In fact, only 20 settlers were living in the valley by the summer of 1911.

The colony began to boom by 1912. Lanfair's ranch, fully improved from the beginning, was yielding abundantly. Carloads of machinery, lumber, and supplies were arriving by rail almost daily; the California Eastern reported a “considerable increase of business” that summer. A post office (Lanfair) was established in September. Meanwhile, a school district was organized; its enrollment soon shot up to a peak of 29.

Meanwhile, only one mile north of Lanfair, two blacks, G.W. Harts and Howard Folke, laid out a townsite, to be named **Dunbar**. Their colony would experiment with the cultivation of cotton and “bring freedom to the colored race,” as the *Bulletin* explained. Harts brought in a colony of blacks in early 1911, though many returned after a few months, apparently to Los Angeles. A year later, in the summer of 1912, Dr. C.H. Duvall, “talking freely and enthusiastically,” established a home and school for black orphans on 40 acres of donated land. A carload of supplies was ready

for the construction of buildings, for which $40,000 had been pledged. (Dunbar post office was established in October, 1912, operating until May, 1914.)

Of more enduring importance was the far-flung colony established around **Ledge** siding, five miles north of Lanfair. A store was opened and a postoffice applied for in June, 1912. “Almost every train brings in some new members of the colony,” the *Bulletin* reported. “Quite a little tent town has sprung up at the railroad,” where an estimated 100 persons were living. Supplies for farming were being unloaded daily.

Cecil Barbour was the chief promoter of Ledge. He would get in touch with prospective settlers and, for a small fee, inform them about unclaimed lands. The Barbour's ranch house, just east of the siding, was composed of three large tents placed end to end, framed with lumber, and fitted with doors and windows. An overhanging double roof provided insulation and space for a porch', The Barbours owned Ledge's only good well; they sold water for 25 cents a barrel.

During these early years, the California Eastern Railway served as the artery of the valley, though fair auto roads fanned out to Goffs, Ivanpah station (Leastalk), and Cima. To attend school in Barnwell, children would catch the train in the morning and return on the afternoon train heading back to Gaffs. When newlyweds Bert and Maud Sharp arrived at Ledge in February, 1914, the train consisted of an engine, combination passenger-mail-baggage coach, two or three freight cars, and a caboose. A refrigerator car carrying fresh fruit, vegetables, and other perishables was added every Monday and Friday. Though Ledge had no depot, the train would stop for 15 minutes while settlers flocked in to pick up mail, freight, and express packages. Unclaimed mail would be left in a large locker and the key hidden from transients.

"Train day” was only one of many down-to-earth social events. Ernest Lanfair held a memorable July 4 celebration for 300 or 400 guests in 1914. The guests could have their fill of three steers barbecued overnight in a rock-and-earthlined pit, besides beans, salads, trimmings, pies, cakes, and ice cream. A piano played atop a newly erected pavilion. Harmonicas, fiddles, and other instruments provided lively music for everything from square dances to waltzes. And no July 4 was complete without horse racing, sack and potato races, roping, and games.

When the Julius Alexander family invited 20 guests to a “Home Products Dinner” in Pinto Valley later that year, most of the food, from the chicken to the peanut butter, came from their ranch.

The valley was a homey place. Nearly 130 men and women were registered to vote in late 1916. Three schools were in operation: Pleasant Valley at Ledge, Lanfair, and Pinto Valley. The Pleasant Valley School enrolled up to 25 pupils. When Mrs. Elanor J, Jacoby bought the Barbour ranch, her old house was turned into a part-time clubhouse. While children slept on cots in the bedroom, their parents would dance and enjoy refreshments. For a while, a mine superintendent even preached there on Sundays. Across the tracks, a building was put up for a post office; named **Maruba**, it opened in August, 1915. Near his ranch, Ernest Lanfair ran a store; it housed the post office and sold groceries, supplies, and gasoline. Nearby stood the school and a boxcar that served as the depot.

Several farms became fairly productive. The colonists would dry farm milo maize, corn, and beans during the spring and dry farm small-grain crops during the fall. One ranch irrigated grapes and obtained good fruit from 140 trees.

Old Millard F. Elliott, with experience in Alaska, California, and Mexico, turned out to be the best farmer. Good barbed-wire fences and poultry netting kept out cattle and jack rabbits. Using only one-horse implements, Elliott planted a large orchard and raised a wide variety of fruits and vegetables; his especially delicious watermelons drew buyers from as far away as Needles.

Though the valley contained only three good wells, the water projects were ambitious. Ernest Lanfair owned two 550-foot wells, one of which produced 50,000 gallons a day"; a spring fed a 15,000-gallon concrete reservoir through an eight-mile pipeline. The deepest well in the valley operated at the former Barbour ranch, now owned by Mrs. Elanor J. Jacoby. It went down 879 feet and produced about 25,000 gallons a day. Mrs. Jacoby charged only 15 cents a barrel.

But ominous clouds began to darken the valley. After the Armistice of November, 1918, the prices of crops and metals plummeted. The Santa Fe, meanwhile, cut its service to two trains a week, later to just one. Cloudbursts could generate 50-foot-wide torrents that would carry away Joshua trees, railroad -ties, and boulders; a storm in 1916 washed away part of the rail line for six weeks. Occasional deep snow would hamper travel by road. Hail, coyotes, and rabbits would wreck crops. Tramps, too, might menace residents, perhaps even burglarizing homes, though Mrs. Sharp always gave them a meal.

Still, a few families continued to move into the valley. Bert Sharp and Elliott finally opened a small grocery store and gasoline station in the Maruba post office in early 1919. Sharp built a counter, shelves, and storage rooms. Wholesalers in Needles and Colton supplied them with everything from gasoline to corn meal. (Gasoline was priced at a costly 42 cents a gallon, though the expense of shipping it from Los Angeles left the partners with only a meager profit; sugar, too, sometimes rose to a steep 26 cents a pound.)

Though the Maruba store would be opened only eight or nine days a month, on train days, it buzzed with activity. Homesteaders would come to pick up their mail, perhaps buy supplies, and trade gossip. The Sharps and Elliott would take butter and eggs from the colonists and send them to Searchlight. Their hens also laid a few dozen eggs a week for outside sale. The store would sell some of Elliott's melons, apricots, peaches, and grapes. Mrs. Sharp would can other surplus peaches and sell them for 75 cents a quart and turn his Concord grapes into jelly and sell dozens of pints for 75 cents each.

The Sharps thrived on this hardy life. For a while, they were able to induce a Santa Fé conductor to leave them used blocks of ice from the refrigerator car. Mrs. Sharp was able to grow delicious vegetables for dinner in a small garden. Though a crop of wheat was hit by hail, several turnips she tried out grew to five pounds apiece. Every other Saturday, the family would drive to the Pinto Valley School and dance the night away, sometimes arriving home at dawn, for nobody “seemed to have a care in the world.”

But no amount of resourcefulness could stave off fate. Ambitious attempts raise cattle and convert the leaves of Spanish bayonet plants into rope and soap failed. Full-time jobs in the valley were almost unknown. The Santa Fé cut its service to one train a week. On train days, the Sharps would drive up from Goffs, their temporary home, help bring in freight and mail, open for business, and return that same day.

The plain fact was that the rainfall was “apparently nowhere near sufficient,” as one geologist later declared. Speculators seemed to have the only money with which to sink wells. As settlers gained title to their homesteads, they began to trickle away, most of them to Los Angeles and Long

Beach. Though everyone enjoyed the fellowship and mountains of food at one farewell party, Mrs. Sharp recalled, "there was a note of sadness, too, at the thought of the family leaving the valley. . . ."

The colonies did not die easily. The Lanfair school closed about 1922. Business at Maruba slackened; the Sharps gave Elliott the store, its ample stock, and its accounts and left in early 1922, as did 15 other families. Only three families remained in 1926. Elliott finally closed the store and the post office that March; the Lanfair post office closed in January, 1927.

The school reopened briefly a few years later, and the Sharps even returned for a few months. But the era of colonization was over. Sadly, old Millard Elliott, the only settler able to make a living from the land, died after a freak accident in 1932.

SOURCES: The earliest years were described in the Searchlight *Bulletin*, 1910-1913, and by David G. Thompson*, Ground Water in Lanfair Valley, California* (U.S.G.S. Water-Supply Paper 450-8. 1921) and The Mohave Desert Region. California ... (WSP 578, 1929. cited earlier). Maud Morrow Sharp vividly recalled her homesteading days at Ledge siding in *Maruba* (Norco, 1984); this is a remarkable reminiscence.

BAXTER

Happily, some mineral deposits are large, rich, and accessible. Such were the Baxter and Ballardie Quarries, in a whitish hill of limestone near Baxter station, seven miles west of Crucero. (Baxter has since been renamed Basin.) The limestone was used to ornament buildings and to process sugar beets.

A 3,600-foot spur track was built from Baxter about 1910. But little development probably-took place until 1914, when a track was laid along the hill and a post office established at the station (June). About 1916, the Sugar Lime Rock Company, which leased part of the deposit, installed a modern plant, including a 110-foot steel-boom derrick and a pumping plant, and built bunkhouses and a boardinghouse for its 60 laborers and mechanics. More tracks were laid in 1917. But the quarries probably-shut down at the end of World War I; Baxter post office closed in March, 1919.

The quarries enjoyed a major revival a few years later. The post office was re-established in June, 1923. Ironically, just when Baxter school district was created in 1926, the quarries were shut down, the post office was again closed (June), and the district was dissolved. The quarrying machinery-was dismantled that summer and moved to a new limestone-mining operation south of Cadiz station. This limestone mine became the site of the company-town of Chubbuck.

SOURCES: David Myrick's *Railroads of Nevada and Eastern California, II* (cited earlier), contains a brief section, with photographs, on the quarries. The only important eyewitness description of the operations, with photos and a map, can be found in California State Mining Bureau, *Report* 15 (1915).

GOLDSTONE

IF AT FIRST YOU DON'T SUCCEED, try, try again. This was good advice in the ' Goldstone district, the site of one of the last gold rushes in the Mojave Desert. The discovery of gold in early 1910 on the gentle slope of the Granite Mountains, 30 miles north of Barstow, sparked a flurry of excitement and gave rise to the camp of **Wideawake**. A little work continued through 1913.

The district revived in the fall of 1915, when W.B. (Bob) Redfield and his brother, Benjamin, found a ledge of gold assaying up to $3,000 a ton. Their employer promptly sent word to friends in the Boston investment community. Five days later, a Boston capitalist stepped off the train at Barstow, bought the claim, and organized the Goldstone Mining Company. The Redfield brothers and Philip Bridgman struck off on their own and organized the Red-Bridg Gold Mines Company.

A rush began. Newcomers who flooded into Barstow found it impossible to rent houses or furnished rooms. ". . . The hotels are having their full quota of guests, and business in general is on the increase," one mining man told 'the weekly Barstow *Printer*. One former skeptic found that "the camp is all and much more than is claimed for it. . . ."

As the winter of 1915-1916 turned to spring, Goldstone grew from a camp with six miners to a village of 150 residents. The village comprised nine tent and- frame houses by early May and would soon offer "such comforts as a desert camp affords," including Mrs. Della Miles's Goldstone Hotel, boardinghouses, sleeping tents, and a large general store. Mrs. Miles had furnished her hotel with 25 new spring beds and could feed 100 at her boardinghouse; board cost $1 a day. Mail and supplies arrived daily from Barstow; water was supplied from Indian Springs, nine miles away, for 1 1/2 cents a gallon.

Gone were the dusty days of the stagecoach. For $10 round trip, a twice weekly auto stage made the Los Angeles-Goldstone run in only eight hours, though trains reached Barstow in four hours. From Barstow, most autos could make the trip over a fair, 33-mile road in less than two hours. Bob Redfield and a partner charged $5 for the round trip.

The heat of early summer failed to daunt the district's guiding lights. Promoting the village was the Goldstone Townsite Company, headed by John A. Pirtle, a former Los Angeles banker. The company laid out an 80-acre townsite, advertised for such businesses as a bakery, drugstore, and barbershop, and pushed real estate; lots sold for as much as $350. In July, the Red-Bridg company was sinking a shaft round the clock and had high-grade ore sacked for shipment; the Goldstone Mining Company opened a handsome, five-room building in Barstow.

Although the district apparently slumbered through the rest of the summer, by October, shares of two mining companies were being traded on the New York Curb (American) Exchange. Meanwhile, Malcolm N. Smith of San Bernardino opened the well-stocked Goldstone Store, which offered everything from groceries to medicines, and Pirtle opened an office for the townsite company.

A steady stream of publicity went out to boost the district. Dick Mansfield put out a weekly mining bulletin from his Barstow Mining Bureau. Already churning out news items and puff pieces, the *Printer* started a weekly edition called the Goldstone *Mining News* about December; a few weeks later, it began promoting the district in the organ of the New York exchange.

Employing small forces, the two leading mining companies were not the only firms sparking the boom. The *Printer* reminded big-city investors that the "little fellow may not be desirable for the camp, but we note one thing; they have shoved down shafts, have made Goldstone look like a camp with their many tents and buildings, have furnished the first ore for the new mill and are employing every legitimate means in their power, chiefly muscle, to make the camp one of the best in the country."

It wasn't until this period, late 1916, that substantial mining began. The Goldstone Mining Company started up a simple but efficient mill that could crush up to 25 tons a day. Calling it "a grand thing for the camp," the *Printer* urged the "boys in the hills" to give the mill ample ore. Then the discovery of a body of glistening ore in the Goldstone's shaft in early 1917 "pretty nearly assures the district of at least one mine," general manager Dan Greenwalt reported.

This prosperity was almost too golden for its own good. When 31 guests filled the hotel a few weeks later, Greenwalt predicted that the rush "will mean ground floor tent life close to nature." Though improvements had shortened the road to Barstow by five or six miles, all teams and trucks were taken up. (Ore cost $6 to $8 for the haul to Barstow.) One six-horse team carried up to seven tons of goods for the Goldstone Mine. But in his two-ton truck, D. Risley handled much of the camp's general freight business, including a ton of supplies for the hotel.

The Goldstone's strategy was to sink its shaft deep, perhaps to 800 feet. All during early 1917, trucks and teams hauled in fuel, lumber, and machinery. An 11.man force, working two shifts a day, jackhammered the shaft down to 201 feet by summer, for which the men received a raise, to $4.50 a day. From Superior Valley, 12 miles away, ranchers could easily see the glow of the huge air-fed gasoline light atop the mine's gallows frame.

This and other mining activity sparked a building boom that spring. Houses were planned, painted, and enlarged. The Mansfield family, for instance, brought in 50 crates of furniture and household goods for their refurbished cottage and took over the store and office buildings of the townsite company.

Though a subscription drive failed to bring in a phone line from Barstow, a post office named Goldbridge opened in early June in the Goldstone Store. The name was an altered contraction of the titles of the Goldstone and Red-Bridg companies. The *Printer* feared that the new name might confuse investors but conceded: ". . . .Well--a Goldbridge built of Goldstone ought to attract some attention, and from the present outlook the camp should furnish material to build several of them."

As Goldstone grew, it came to enjoy many of the comforts of town life. The hotel was noted for its food, plentiful and well cooked, as during Thanksgiving, 1916, when Mrs. Miles had served an "unsurpassed dinner" with "turkey galore." A few months later, the Auslin brothers were bringing in fresh milk daily from a herd of cows grazing in a lush field of rye in Superior Valley. And a trio of mining men were developing a copious spring about four miles from camp.

Nor did the village lack a taste of city culture. The night engineer of the Goldstone and his wife brought back a Victrola and records from Los Angeles in mid-1917; a few weeks later, the camp "greatly enjoyed" the violin music of the couple's visiting son, William. "... We hope he will stay all summer."

The record of the last year is sketchy. Though the general manager of the Goldstone was pleased with the mine's progress in 1918, the value of the ore-$ 30--ran well below the riches of 1916 and 1917. Mining apparently ceased that year. The post office closed in August.

SOURCES: The *Mining & Scientific Press*, Los Angeles *Mining Review*, and Barstow *Printer* reported the discovery of 1910 and the boom of 1915-1918. The *Printer* also issued a special weekly edition, the Goldstone *News*. L. Burr Belden interviewed a pioneer of the earliest years: "Goldstone Has Three Periods Of Gold Activity," San Bernardino *Sun-Telegram*. Oct. 6, 1957, p, 26.

The Los Angeles *Times* published detailed features, with photographs, on the second boom, as did several mining engineers: Leroy Palmer, "New Strike at Goldstone, California." *Engineering & Mining Journal*. June 10, 1916 (v. 101), pp, 1040-1041; A. E. Rau, "Goldstone District. San Bernardino County, California," *Mining & Oil Bulletin*. June, 1916 (v. 2), pp, 149-155; and the California State Mining Bureau, *Report* 15 (1915-1916), pp. 804-807, which expands Rau's account.

KINGSTON

IT MUST HAVE TAKEN AN OPTIMIST to look upon the Mesquite Valley as prime farmland. In this 400-square-mile basin straddling the California-Nevada line, the often-abundant tends to be too mineralized for people, livestock, or crops, the soils also tends to be poor, -and the dust and heat come down with full force. Two attempts to colonize the valley, one made just before World War I, have failed.

Ironically, just as crop prices were falling, another major attempt to homestead was made during the early 1920's. Most of the colonists were Californians, and some were veterans. Because of the valley's isolation, several vineyards were planted to serve the bootlegging trade.

An embryonic settlement grew up in the far northeast corner of San Bernardino County, about a mile inside California. A post office named after the nearby Kingston Range was established in May, 1924. During the next few years, Kingston came to support a grocery store, which housed the post office and a government weather station, a community hall, an emergency school, and two tiny county library branches. One branch served the school, the other served the community.

The valley shrank to two families' by 1929. But during the early Depression years came a trickle of the unemployed, who tried to dry farm. A dozen children attended school about 1932, 'when the valley's population peaked at 50 to 75. A voting precinct had also been created. Yet Kingston would remain stunted. The rainfall was neither steady nor abundant, ranging from a 1.4 inches to 9.5 inches a year. Kingston's libraries ranked with the county jail and hospital in receiving the best discards from the system; the school remained attached 'to another district. Both the school and libraries closed and reopened several times. When the Depression finally began to ebb, the populace began to leave. The post office closed in May, 1938. The weather station shut down in 1941, apparently with the store.

SOURCES: The only accounts of Kingston are to be found in Stanley Paher's *Nevada Ghost Towns and Mining Camps* (Berkeley, 1970) and in L. Burr Belden's “Platinum Strike Touches Off Big But Brief Boom,” San Bernardino *Sun-Telegram*, June 2, 1957, p. 26. The environment has been described by D.F. Hewett in his work on the Ivanpah Quadrangle (already cited) and by Gerald A. Waring in *Ground Water in Pahrump, Mesquite, and Ivanpah Valleys, Nevada and California* (U.S.G.S. Water-Supply Paper 450-C, 1920).

KRAMER HILLS

EVEN THOUGH MINING turned more corporate during the early 20th century, the excitement and hope that prospecting offered individuals persisted.

The Kramer Hills, southeast of the present town of Boron, was the site of one of the last old-fashioned rushes in California. In these hills, about four miles south of Jim Grey siding, between Mojave and Barstow, the Herkelrath brothers, Ed and John, found pockets of rich gold ore in early 1926. The strikes were made near the scenes of short-lived rushes about 1885 and 1900.

When word of the strike leaked out about March, thousands rushed into the district, staking out claims all over the hills and filling up Barstow's hotels. “The mining men say that not in the last quarter of a century has there been such a gold rush. . . ,” the Barstow *Printer* reported in late April. Samples of ore assayed up to $10,000 a ton in gold. While digging a hole for an outhouse, for instance, one early arrival found ore that panned 75 cents to $10. To one veteran prospector, the discovery looked “like a steam shovel proposition.” A Whittier service-station owner called the rush “the kick of a lifetime. Kramer is back in the days of '49, and the excitement in [the] air quickly gets into your blood. The trip is worth anyone’s while just to see what's going on there.”

Others had similar ideas. Happily, good dirt roads led into the district. Upon arrival, however, newcomers had to be prepared to rough it, though it was denied that businesses were “holding up the public for the necessities of life.”

A simple camp was thrown together. Housed in shacks and tent-houses were several restaurants, an assay office, an information bureau, many offices of mining engineers, a hotel, and makeshift stores, refreshment stands, and produce stalls. An emergency school and branch of the San Bernardino County library were established that veal'.

The first burst of excitement soon died down. Even from the start, the *Printer* wondered, “how long these rich values hold out remains to be seen. . . .” In fact, most of the deposits turned out to be low-grade are. So many mine operators had fled that in May, 1927, the Miners and Prospectors Organization had to pass a resolution reminding absentee owners to perform their annual assessment work. The Herkelrath property had on its dump then 4,000 tons of ore worth a modest $5 to $15 a ton; on the Ames property, a 200-foot shaft led to ore averaging $8 a ton.

Though the school was still active enough that May to enjoy “play day” at nearby Adelanto, it and the branch library were probably closed later that veal'. A mill was built and a costly well was bored in early 1931, but the lack of water forced the operation to shut down after several months.

SOURCES: The Barstow *Printer* sporadically covered the boom and decline, 1926 - 1931. *Desert Fever*, by Vredenburgh and others, offers an overview.

CHUBBUCK

CHARLES INGLES CHUBBUCK hadn't intended to get into mining. After moving from Canada in the early 1900's, Chubbuck built up a building-materials business in the San Francisco area; the earthquake in 1906 gave his business a big boost. To get a cheap source of lime, Chubbck also began processing the slurry created as a by-product in acetylene generating in Union Carbide Corporation plants on the Pacific Coast. (Acetylene is a gas used in welding and lighting.) But flecks of calcium carbide, the basis of the gas, gave the lime a bluish tint.

Chubbuck needed a whitening agent--almost pure lime--to add to the off color by-product. In the early 1920's, two Barstow mining operators began opening up a ridge of limestone southeast of Cadiz station, in the Kilbeck Hills.

The record is not clear, but Chubbuck apparently bought the property, built a short spur from the Santa Fé line, and then put up a camp and mill; the machinery had come from the Baxter quarries in 1926. Chubbuck's mill produced raw limestone as foundry rock, processed limestone as a whitening agent, and pebble lime as chicken grits.

Major operations apparently did not get under way until about 1930. By then, Chubbuck, as the camp was called, was a simple settlement of 30 to 40 buildings, including houses for the workers and their families, a company store, several mills, and a powder storehouse. A few trees broke the bleakness. With 17 children attending, an emergency school was established about 1932 in a canyon west of camp. The teachers, books, and furnishings had come from the recently closed school in the ghost colony of Lanfair.

The camp did enjoy a few amenities. Diesel engines and generators provided power, but water had to come in tank cars from the railroads wells at Cadiz, 17 miles north. Perhaps not surprisingly, sales of the popular Eastside Beer equaled the combined sales of the other goods sold in the store. A railroad line and a gravel road linked Chubbuck to Cadiz, though visitors would sometimes land planes on the road.

Society at Chubbuck was highly stratified, typical of camps then. Most of the workers were Mexicans, who received 25 to 30 cents an hour. About the only American was the superintendent, whose house overlooked the camp. Despite his position, the superintendent had serve as a jack-of-all-trades: there was no time to bring in a repairman.

The heyday of Chubbuck came with the construction of the Metropolitan Water District's aqueduct to the Colorado River. Borrowing $100,000 from the Reconstruction Finance Corporation, the Chubbuck Lime Company began turning out a white, heat-reflecting coating in 1937 to line the channels of the waterway. A post office, housed in the store, was established in May, 1938. Charles Chubbuck later marketed the coating for use on desert roofs. Meanwhile, attendance at the school rose steadily, to a peak of 40 in 1940. Three years later, 24 men worked in the mine and mill, where a 50-foot-Iong rotary kiln roasted lime at 2,000 degrees F. The plant could crush and screen 60 tons of lime and lime stone daily.

But even in 1943, the camp's best days were over. The school was losing pupils. After the war, a Virginia company developed a slick plaster lime that proved easier to work with than the products made by Chubbuck and other concerns. And when the Union Carbide company stopped producing acetylene in the West, Chubbuck lost a vital source of lime. The company stopped

paying back its loan to the Reconstruction Finance Corporation. Production became intermittent. In 1948; two years later, the company store, school and post office (August) were closed. During its quarter-century of operation, Chubbuck had produced 500,000 tons of limestone.

Repossessing the site, the Reconstruction Finance Corporation in 1951 sold the property and equipment to a subsidiary of the Harms Brothers Construction Company of Sacramento. But the presence of silica in the lime made further mining impractical. Harms Brothers auctioned off the property, including the kilns for scrap, about 1954, though most buildings remained at the site for at least another year. While relaying its tracks, the Santa Fé removed the siding in the mid-1970's. A few years later, all that remained were a large concrete foundation and a small hexagonal explosives storehouse.

SOURCES: The written record is scanty. Most of the information for this chapter comes from notes of an interview between Larry Vredenburgh, an author of *Desert Fever,* and Dixon Chubbuck, the son of the town's founder. The operations were described in California Division of Mines, *Report* 39 (1943). .

CAMPS IN BRIEF

Cave Springs, in the central Avawatz Mountains, was an important stop for borax wagons traveling from Death Valley between 1882 and 1887. Francis Marion (Borax) Smith built a stone corral at tile springs. One early entrepreneur put up a stone hut and briefly sold water for 25 cents a man or beast. It was abandoned when the journalist John Spears passed through the area in 1891. Water from the springs was hauled to camps in the Crackerjack district from 1906 to about 1909. Adrian Egbert, a veteran prospector settled there in 1925, put up several buildings, including a primitive service station, and laid out a string of emergency water stations. Egbert's work attracted the attention of journalism Ernie Pyle during the 1930's. The United States government evicted Egbert in 1941 to set up Camp (Fort) Irwin.

Harpers South Camp, at Sheep Spring, was the millsite for the nearby A-.C. Morris Mine, of which John Harper was the superintendent. The camp, north of iron mines southeast of Silver Lake, in 1909 consisted of a boardinghouse, assay office, and stable. The boardinghouse still stood in 1983.

Frank Denning first found gold in 1884 near what would become **Denning Spring**, northwest of Avawatz Pass. But his claims never paid well. Then gold and silver deposits were uncovered in the early 1900's. Up to 60 miners and prospectors in April, 1905, were working near the spring, where a camp was taking shape; meanwhile, an auto line from China Ranch, near Tecopa, was under discussion. In 1907, five men staked out a millsite and townsite at the White Swan property. During World War I, George Rose and his wife and children settled in the area. Scrounging material throughout the desert, Rose erected a mill and maintained a mine and small camp.

Arrastra (Arrastre) Spring, in the northeast end of the Avawatz Mountains, was a hideout for small-time criminals during part of its history. The arrastra was built by high-graders about 1894 to process stolen ore from the Keystone Mine, in the Yellow Pine (Goodsprings) district of western Nevada. A small camp was established at the spring during the Crackerjack rush. This wave of miners discovered .the abandoned arrastra and a crumbling adobe. And during Prohibition, bootleggers produced liquor in a tunnel. A quarrel between two of the moonshiners left one of them (Nick Gegg) dead.

In the northwestern Soda Mountains, the camp and mining district of **Five Points**, named for a ridge, was established near rich copper-silver deposits in 1885. The Amos brothers rediscovered the deposit in the early 1900's and built the **Amos Brothers Camp**. It and other nearby camps were served by a stage line from Silver Lake. The camp was also named **Day Break**, after the Break of Day Mine. The Amos brothers sold their mine in 1910 to a company that opened up the property and even took out some are. In the late 1970's, a major mining company drilled several holes in search of a suspected porphyry copper-molybdenum deposit.

Solo Camp, on Joe Dandy Hill, in the south-central Soda Mountains, was established near silver-lead mines west of the present town of Baker. A mining district was organized in the mountains in 1889; the camp contained the recorder's office. Mining continued here intermittently until the 1950's. The Blue Bell Mine has become famous to collectors for its rich diversity of minerals.

Copperfield camp was founded about five miles north of Horse Spring, in the Kingston Range, in early 1907. Although shallow prospects were sunk into copper deposits, the prospecting failed to uncover any commercial are.

Mining was especially active on the east side of the Ivanpah Mountains during the summer of 1907: At the Casa Grande Mine, Dr. J. S. Mead and his son established the camp of **Meadsville**. Their mine and camp were named the **Kewanee** by mid-1908. Between 1907 and late 1909, Dr. Mead and his company erected a mill and employed about 50 miners. The small quartz veins proved extremely rich in gold. The mine was active on and off until about 1912. Meanwhile, Robert Williams found gold silver-lead ore about one mill northwest of the Kewanee. Williams's strike--and the resulting camp--were called the **Sunnyside**. The mine was active on and off until 1912, when the Palm Hill Mining Company of Los Angeles took over the property, sank a shaft, put up a hoist and buildings, and planned to install a mill.

Arrow Camp, located perhaps near Arrow Spring, served as the center of the Arrow Mining District. The district was established in 1878, at the southeastern end of the Providence Mountains. In 1895, one rich pocket of gold are yielded $25,000. Limited activity continued for decades. In 1914, a company was incorporated to work the Hidden Hill Mine and built roads and a camp. Another pocket of ore yielded $13,000 in gold.

Gannon's Camp, named after the mine owner, was established in the Arrow District, at the Contention Mine. A modest camp and a three-stamp mill stood at the property in 1902. The Contention reportedly produced $100,000 in gold.

Near Goldstone Spring, in the southern Providence Mountains, two Needles men laid out the townsite of **Goldstone** (I) after Patrick Dwyer found rich gold-silver are. The Goldstone Mining District was then created out of the Arrow district. The boom, however, soon fizzled. In early 1902, the Providence Gold and Copper Company built a road from Goldstone Springs to Fenner, graded a site for a 20-stamp mill (never built), deepened old shafts, and built a camp (**Goldstone** II). The camp consisted of an office, cookhouse, storehouse, and three bunkhouses. Though neither the mill nor a proposed railroad spur was built, the mine remained active through 1907. Now, even the shafts have been filled in, and cattle graze on the site of the Goldstone camps.

Copper King Camp (1), south of Balch siding, on the present Union Pacific line to Las Vegas, existed as early as 1911; governments surveyors then found a tent-house and shaft at the Copper King Mine. In mid-1916, when P.H. Lietznow incorporated a company to work a group of mines, the camp comprised four buildings, including a laboratory, a blacksmith shop, and several tent-houses. Limited workings supposedly penetrated an enormous mass of high-grade gold-copper ore--a claim that was considered absurd even then.

Several camps clustered around the Standard Mine. A small settlement served the **Copper King Mine** (II), two miles south of the Standard, as early as mid-1906, when 25 men were employed to sink shafts. By early 1908, the deepest of four shafts reached 700 feet. A small amount of ore was shipped during 1906-1909.

Meanwhile, a camp was established at the **Sextette Mine**, next to the Standard Mine No.2. A shaft was sunk, a hoist was installed, and a small amount of high grade copper ore was shipped in 1906, but the mine apparently did not pay. But the camp was especially well photographed by Richard Bayley Gill, one of its co-discoverers. Gill's photos, of this part of the eastern Mojave, make up one of the best records of a mining camp to be found. (Gill died in 1954, at the age of 94.)

A rich discovery of gold four miles southwest of **Ibex (Ibis) Siding** in late 1889 resulted in the usual rush. But little mining took place until Peter K. Klinefelter of Riverside bought the property in 1892. After shipping ore to a mill in Needles, Klinefelter drilled a well at Ibex and built a small mill during the Vanderbilt boom; the mill lost so much gold in processing that miner Frank Williams considered the operators "mere robbers." Klinefelter's mine apparently fell into idleness after 1897. The area experienced a revival in late 1902, when a mining company began work on a dam in **Sacramento Wash.** The plan was to tap an enormous underground flow and pipe the water to Needles. During the construction of the dam, a rich deposit of placer gold was discovered, leading to a rush in early 1903, and pumps were installed to drain the gravels. But the pumps proved inadequate to allow mining. The company dismantled the equipment and left.

A rich deposit of free-milling gold ore was found one mile east of Klinefelter station (near Ibex) in March, 1896, setting off a rush. The townsite of **Smyzerville** was laid out in the Dead Mountains, north of the Santa Fé line. But nothing more came of the strike.

Turtleville camp served the Turtle Dove Mine, four miles south of Goffs, as early as 1903. The Turtle Dove was owned by the Western National Mining Company. The Turtle Dove and nearby Gold Flat Mine were shipping high-grade ore to the Needles smelter in 1907. But neither mine developed beyond a prospect.

The Exchequer Mining District was organized eight miles north of Goffs in 1883, shortly after the discovery of rich placer gold deposits. **Cashier Camp** was the center of the district in the early 1890's. Of the three leading mines, the Cashier stood out: from a 150-foot shaft came ore assaying $25 a ton in gold and $75 a ton in silver. Lack of water hindered serious development until 1902, when the Pentagon Mining Company filed on 35 claims at the Cashier Mine, sank three shafts, and built a mill. The settlement was called **Camp Signal;** it consisted of an assay office, shaft houses, bunkhouses, and eventually a mill. This activity led to the formation of the Signal Mining Company in late 1905 (a renaming of the Exchequer district). In 1908, the Leiser Ray Company bought the property. Meanwhile, the Exchequer Mine and its mill, half a mile southeast of the Leiser Ray, were especially active. The discovery of vanadium at the Leiser Ray and Exchequer mines in 1911 stimulated another boom. The Leiser Ray built another mill and carried out further exploration work. But the mine did not pay and soon closed. The mine was reactivated in 1936 and 1937; 30 men were employed. But the mill did not recover enough metal and was probably salvaged during World War II.

Leadville camp was founded at a promising silver-lead-copper prospect four miles northeast of Piute Spring, in early 1908. Though the property was worked on and off until the early 1950's, it amounted to little more than a prospect.

A rich gold discovery by C.H. McClure in the barren hills 16 miles southwest of Needles in early 1906 touched off a stampede. BV the end of February, as the area became blanketed with claims for a radius of 17 miles, **McClure Camp** sprang up. McClure, who had just bought the Gold Dollar claim, was soon rewarded: his 25-foot shaft yielded $1,000 in gold ore. As the year ended, the California Hills Mining Company bought the Gold Dollar, laid out the townsite of **Goldbend**, and later put up a boardinghouse, office, and other buildings. ". . . The streets are filled every day with strangers," most of them prospectors and miners, one newspaper reported. Fifteen men worked at the Gold Dollar in late 1908, sinking the shaft to an eventual depth of 250 feet, through ore worth up to $150 a ton. Even though the property was heavily promoted in 1909, a successor

company failed to get adequate financing and left its plans unfinished. It sold out to a third concern in late 1912, but no development seems to have taken place.

The prominent gold-bearing calcite-quartz veins on the north slope of the Clipper Mountains were first found by Andy Woods in 1896. Several years later,' he began sinking a shaft that eventually reached 100 feet. Tragically Woods was found dead at the bottom of the shaft in 1915.

The Gold Reef Mining Company soon bought the holdings of Woods, and the Clipper Mountain Gold Mining Company and the Tom Reed Mining Company staked claims and began operations. The Los Angeles *Times* in March, 1916, reported the birth of the "town" of **Gold Reef**, with several buildings under construction and a lumberyard established, followed by the construction of a store nearly a year later.

Encouraged by promising outcrops that yielded about one-third of an ounce of gold a ton, the three companies announced ambitious plans for development. The Gold Reef company intended to sink two 1,000-deep shafts; the other concerns each planned to sink 500-foot shafts. The Tom Reed in early 1917 was employing three shifts of men, the Clipper Mountain two shifts.

But at 140 feet, water was struck in the Clipper Mountain shaft. At 300 feet, the water became unmanageable; the flow eventually forced work to halt at all three properties. The Gold Reef company soon bought out its two rivals. Renamed the Gold Reef Consolidated, the company installed large pumps. News reports, however, suddenly ended near the close of World War I.

INDEX